

September 1955

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Living rooms are growing taller because . . . above and page 124

Round Table: standard sizes to sell more built-in kitchens page 116

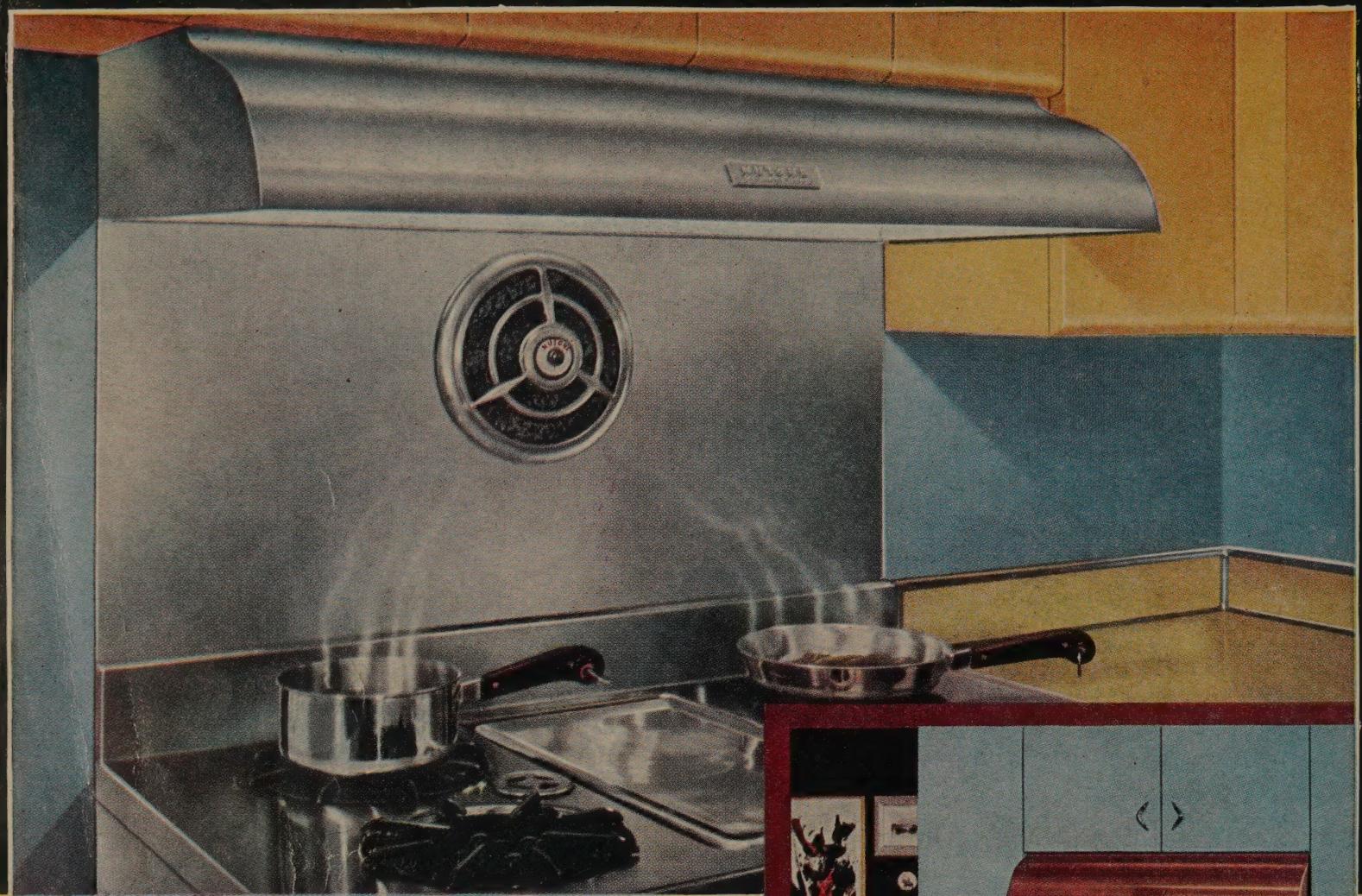
Editorial: builders and savings & loan page 151A

Colean forecast: 1956 will break the \$ record again page 136

National Parade of Homes—Houston to the fore page 140

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Here's a New Low Cost



Illustrated above are NuTone Solid Range Hoods with NuTone Model 831 fan

Saves Money

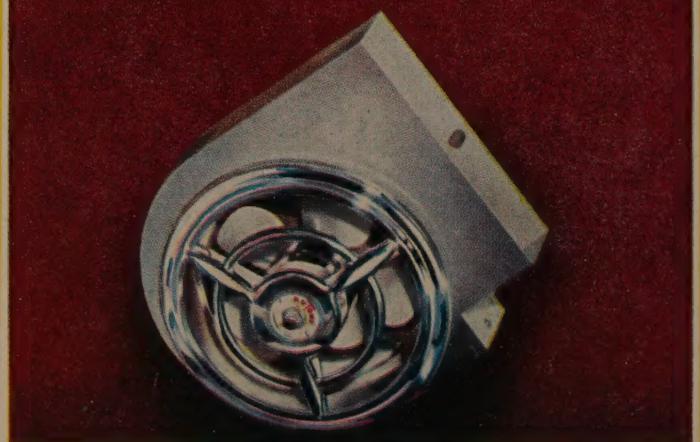
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Housing law: after long labor, a mouse

Congress extends FHA, tinkers ineffectively with some sagging programs, writes some new but questionable ones. Eisenhower signs but criticizes the law

The Housing Amendments of 1955, which President Eisenhower signed into law Aug. 11 with a protest, seem likely to have only a minor effect on the housing market.

The Act (*see table on the next page for details*) includes routine continuation of the FHA Title I repair loan program and increased authority for FHA insurance on 1- to 4-family houses. It steps up public housing from 35,000 to 45,000 units a year—over the protests of the President as well as most of the private housing industry. However, public housing starts in calendar 1955 apparently will not top 20,000 (as against about 1.3 million private starts). Next year, public housing may climb to 30,000.

The principal impact of the public housing provisions, besides assuring that controversy over the subsidized program will continue in the next Congress, may well be to reduce the incentives for cities to proceed with urban renewal. The reason: the Democratic-controlled Congress—over the belated protests of the administration—killed restrictions that made public housing subsidies available only where cities had urban renewal plans to cope with the overall problem and not just one phase of blight.

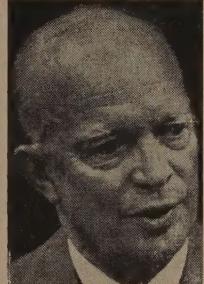
Poisoned lures? Many other features of the Act promise to be ineffectual. Items:

- The increase from \$5 million to \$12½ million in mortgage limits for FHA rental housing will hardly revive a program that is moribund in the wake of the FHA scandals.
- Changing the appraisal basis of FHA cooperative housing from estimate of value to estimate of replacement cost, while re-introducing the principle that led to mortgaging out under the late, unlamented Sec. 608, does not offset the inhibition of cost certification.
- Provisions for FHA-insured loans on trailer courts are likely to find few takers. They will be basically unattractive to mortgage men and builders will not like the cost certification. Moreover, such loans are more business than real estate loans and seem incongruous in the FHA program.
- The revamped Wherry Act has built-in hobbles: it combines competitively bid contracts for military housing with renegotiation of profits (but not losses). The weird legislative concoction—largely the handiwork of Sen. Homer Capehart (R, Ind.)—calls for 100% mortgages on the old Sec. 608 basis that Cape-

hart attacked last year: replacement cost. But builders will be no more than nominal sponsors. On completion, the armed services will take over and operate projects, withholding quarters allowances of military families assigned to them. (Under the old Wherry Act, commanders had no power to tell their underlings to live in the housing.) Another new gimmick forces FHA to insure loans on any military housing the Pentagon wants, but gives FHA the right to demand a guarantee against loss if it thinks any project too risky. Fanny May has power to make \$200 million of advance commitments. Thus the scheme uses the FHA mechanism to expand government expenditures without affecting the legal debt limit.

Presidential objections. In signing what the New York *Herald Tribune* aptly called a "compromise that suited nobody," Eisenhower

TIME: Walter Bennett



EISENHOWER

announced his "serious objections" to several other features of the legislation, said he hoped Congress will act "at the earliest opportunity" to revise it. His targets: *Public Housing*—Congress should have adopted the two-year, 70,000-unit plan he asked because "the full program" is "needed" and can be built "in a more orderly and efficient manner" over two years than one. Said the President: "It is also important for the low-rent housing aids to be coordinated with the slum clearance and urban renewal aids, and for each of these types of aids to be made available . . . only to communities which have adopted workable programs for dealing with the problem of slums and urban blight in their own midst. The Act fails to make adequate provision for carrying out these objectives." *Home Loan Bank Board independence*—" . . . a backward step which will seriously impair coordination [of housing by HHFA] and thrust an unnecessary supervisory burden on the President."

Eisenhower branded two other changes in housing law wrought by Congress as "of questionable necessity." He said: "New lending authority totaling many hundreds of millions of dollars is provided which was not recommended by the administration and is not made subject to the normal appropriation review process. For example, the bill authorizes a greatly enlarged direct-lending program for construction of purely local public works. I believe there was inadequate study of the appropriations or extent of the need for this type of aid."

Oddly, the President called college housing loans "a desirable program" for which "expansion was justified." But he pointed out that

Congress had cut interest rates "to an artificially low level" which "will curtail, if not completely eliminate, the availability of private investment funds which have begun to flow toward college housing. The result will be that instead of more capital being available for this type of loan, there will be substantially less capital in the aggregate."

HHFA dismay. The White House blast was much milder than one issued by HHF Administrator Albert M. Cole in a last-minute effort to persuade Congress to ditch some of the Act's worst features. Cole said that untiring public housing from urban renewal's workable program "sabotages the President's program." He added: "It [the bill] is loaded with so many other objectionable features, such as trailer park financing, a split-up of government housing coordination by making the HLBB an independent agency, a greatly expanded program of direct government loans for local public facility construction . . . that it totally distorts the principles and purposes of the administration's objectives."

Cole fired his salvo too late. Moreover, it was partly the administration's own fault that Congress killed the hook up between public housing and workable programs. White House emissaries made no real attempt to amend the bill more to the President's liking in the Senate. And they were only partly successful in getting their message across to the House. The administration wanted the 1954 restrictions toned down, but not completely eliminated. It was a difficult viewpoint to convey.

One-way compromise. The final law was, as Rep. Jesse P. Wolcott (R, Mich.) complained, "practically 90% the Senate bill"—particularly the features the administration did not like. The Senate passed its version first (July, News). The House rules committee considered it so objectionable that it refused for weeks to let the legislation come to the floor for a vote. Finally, the House adopted a substitute Wolcott bill which continued basic FHA programs, made no mention of public housing. Here, Wolcott may have outsmarted himself, say Capitol Hill veterans. By omitting mention of public housing, the House deprived itself of any technical basis to bargain with the Senate over the restrictions on it in conference. Senate conferees stood pat on their free-wheeling version, so all the House could wangle was fewer units than the 135,000 a year for four years the upper house had voted. The House finally accepted the conference bill by 19 votes (187 to 168) in a spirit of "let's get it over with and go home." Also dropped in conference:

- A cut in Fanny May stock investment requirements from 3% to 2% which was pushed by NAHB.
- Provisions of the Senate bill making single men and women over 65 eligible for public housing, and exempting oldsters from the eligibility requirement of living in unsafe or unsanitary housing.

How to tone it down? There were strong hints around Washington at mid-month that the administration might not make full use of parts of the law it does not relish. Home Loan Bank Board independence it could not dodge. But it seemed reasonable that community facility aid, college dormitory loans and FHA

IN THIS MONTH'S NEWS

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trailer camp insurance could be enmeshed in red tape and administrative requirements. For public housing, indications were HHFA could go as far as to give a priority to cities with workable programs for urban renewal.

There was nothing the administration could do about one major Democratic victory: by writing the law so that major FHA programs will expire Sept. 30, 1956, Congress guaranteed that another general housing bill will be necessary on the eve of the Presidential elections. An omnibus bill has become public housers' best technique for blocking efforts to end their program.

VA direct loans extended, national bank loans eased

In other housing action, the first session of the 84th Congress:

► Extended VA direct loans for two more years at \$150 million a year, the same rate as in 1955.

► Increased the loan-to-value ratio for conventional loans by national banks from 60 to 66½%; raised the maximum term from 10 to 20 years; boosted the maximum term for construction loans from six to nine months.

► Authorized both Senate and House banking committees to investigate government housing. Senate probbers got \$100,000, House investigators \$75,000.

► Gave members of the armed forces more time to escape paying capital gains tax when they sell a house. Now, a man in uniform has until a year after he leaves the service to plow back tax-free profits from the sale into a new house (as civilians must still do within a year from the sale date).

New Douglas fir grading rules due by end of year

Douglas fir lumber may get its long awaited new set of grade-names by year end.

The idea behind the changes being pushed by the West Coast Lumbermen's Assn. is to make it easier for customers to understand what kind of lumber they are getting. Some of the old common lumber designations—"No. 3" for instance—seemed to scare buyers away from "such a low grade." Moreover, many retailers now bunch grades—especially B&Btr. and C in flat grain uppers. Since mills have been following suit, the classifications were becoming meaningless.

The new rules, now ready for the printers, will substitute sales language for the old technical designations. Retailers say specifications will be left almost unchanged. Details:

► No. 1 common lumber will become "construction grade." No. 2 will become "standard." No. 3 will be called "utility" and No. 4 "economy" grade. 1" select boards will become "select-merchantable." 2" and over will be "select-structural."

► For upper grades, flat-grain clears will drop the old B-and-better grade (already passé at many mills) and establish a new C-and-better as top grade. D and E grades will be unchanged.

Originally, the lumbermen planned many changes in specifications. The idea was dropped because mills cut in a widely assorted category of tree grades and, as a result, have different grading problems. Additionally, midwestern retailers mix grades less than dealers elsewhere.

1955 HOUSING AMENDMENTS: details of the new legislation

FHA MORTGAGE INSURANCE

Insurance ceiling

Rental housing

Cooperative housing

Urban renewal & Secs. 220, 221

Trailer parks

Military housing

Defense housing

Title I repair loans

Capital Grants

Open land projects

Bigger program, with no restrictions

Public facility loans

Advances for Planning Public Works

College housing loans

HOME LOAN BANK BOARD

FARM HOUSING

Increases FHA underwriting authority by \$4 billion as of July 1. Deducting interim operations, this means a boost of about \$3.6 billion from Aug. 15.

Raises mortgage limit from \$5 to 12½ million per mortgage on rental housing under Secs. 207, 213, 220, 221. Lowers eligibility under 207 from 12 to eight units.

Shifts Sec. 213 loans from value to replacement cost appraisal, earmarks \$50 million of FNMA funds for advance commitments (limit: \$5 million in one state), requires appointment of a special assistant for cooperative housing.

Shifts 220 projects in renewal areas (except rehabilitation jobs) from estimated value to replacement cost valuation. Exempts builders of single-family Sec. 221 homes from cost certification—an oversight in the 1954 Housing Act. Extends eligibility for 221 housing to families remaining in urban renewal areas.

Amends Sec. 207 to include mortgages on land, utilities and other improvements for trailer courts or parks, but not trailers themselves. Limits: \$1,000 per trailer space, \$300,000 per project.

Extends FHA Title VIII to Sept. 30, 1956 with additional \$1.36 billion insurance authority. Requires FHA to approve any project certified as needed by Secretary of Defense but lets FHA require Defense Dept. to guarantee FHA against loss if FHA disagrees about the need. Shifts mortgage basis from estimated value to replacement cost (but the 1955 Renegotiation Act makes project profits subject to renegotiation). Earmarks \$200 million for FNMA advance commitments. Permits 100% loans at 4% with maximum of 25 years, \$13,500 average per unit. Lets Secretary of Defense sign low-bid contracts with builders for construction on land owned or leased by US, with contracts giving Defense Dept. control of property as soon as completed. Empowers Defense Dept. to operate housing, using armed forces' quarters allowances to pay off mortgages. Requires FHA to appoint a special assistant to expedite program.

Continues Title IX defense housing on limited basis: only projects with commitments before Aug. 1 qualify.

Extends Title I to Sept. 30, 1956, but leaves ceiling for home improvement loans at \$2,500 rather than \$3,000 proposed in early drafts of '55 law. Permits federal S&Ls to make property improvement loans up to statutory limits of FHA and VA programs.

URBAN RENEWAL AND REDEVELOPMENT

Increases capital grants \$500 million—\$200 million for this fiscal year, \$200 million more after June 30, 1956 and \$100 million at the President's discretion.

Extends permission for redevelopment of open land areas to projects involving industrial or other nonresidential re-use. Limits loans or advances to localities for such projects to 2½% of estimated gross cost of all the locality's other projects.

PUBLIC HOUSING

Authorizes new contracts for 45,000 units before July 31, 1956. Kills requirement that locality must have workable program to fight blight to be eligible to sign contract for more public housing. Discards 1954 law limiting public housing to displacees from governmental action. Ends requirement that city must have redevelopment or renewal project to qualify for public housing aid.

COMMUNITY FACILITIES ADMINISTRATION

Starts new \$100 million loan program, Treasury-financed, to finance community facilities, especially sewage, water, gas systems. Gives priority to towns under 10,000 population.

Expands loans to localities by setting up a \$48 million revolving fund and authorizing \$12 million increase in previous loan ceiling of \$10 million, with another \$12 million in fiscal 1957 and an additional \$14 million in fiscal 1958. Increases from \$300 million to \$500 million the fund available for direct loans to colleges and junior colleges for housing (dormitories, faculty housing, etc.). Permits \$100 million of it to go for loans for such facilities as dining halls, student centers, infirmaries, cafeterias. Increases term to 50 years and cuts interest rate to the higher of 1) 2¾% or 2) ¼% more than HHFA pays the Treasury for the taxpayer money it borrows to make the loans.

Separates Home Loan Bank Board (along with Federal S&L Insurance Corp.) from HHFA, thus restoring the board to its original status. Gives board power to end membership of any Home Loan Bank System member for insolvency, bad management or unsound practices. Expressly prevents voluntary withdrawal from system of any federal S&L.

Greatly expands the subsidized program set up under Title V of the 1949 Housing Act by making \$100 million more available for loans from the Farmers Home Administration in the Agriculture Dept. The 1949 Act lets Agriculture make long term loans to farmers with adequate farms who do not obtain private credit on "reasonable terms," authorizes similar loans supplemented by "modest contributions for 5 years" where the farmer cannot repay in full but the farm can become self-sustaining; permits "modest loans and grants" to help owners of "very poor farms" remove health or safety hazards.

MORTGAGE MARKET:

Curb on warehousing, tighter money rates worry builders

Tightening of money is likely to curb home building more than the stiffer down payments for FHA and VA homes.

The government stepped on the brakes of the high-powered business boom belatedly and with seeming reluctance. Then it touched them twice in six days. Close behind the ban on no-down VA loans and a corresponding 2% increase in loan-to-value ratios for FHA loans (see p. 158), Federal Reserve Banks raised discount rates from 1 3/4% to 2% (except for the Cleveland bank, which went to 2 1/4%).

The latter kind of credit tightening will spread its effect over the whole economy. But the impact on mortgages will not be far off. Moreover it came on top of a clampdown on mortgage warehousing by the New York Federal Reserve Bank (August, News) that one mortgage expert thought "may hurt worse than anything else."

Scurrying for cover. The New York Fed let the word get out that it might withdraw discounting privileges from member banks who continue the well established practice of using short-term commercial funds to provide a temporary haven for mortgages awaiting a permanent investor. The Fed's move (so far limited to New York) was aimed at stopping a latter-day variant of the original warehouse scheme. But the whole warehousing system should feel the pinch. Big New York banks are the prime source of warehouse funds. Within a week, some brokers along the east coast told *HOUSE & HOME* they were forced to "scurry around like mad" for non-New York warehousing money to cover deals that were already arranged.

President Tom Coogan of Housing Securities Inc. of New York and a former (1950) NAHB president, asserted the Fed's move could "promote a severe crisis in home building." Said Coogan: "In the past the industry has been subjected to many starts and stops because of fluctuations in the money market or the unwillingness of banks and insurance companies to commit themselves to future investments during periods of temporary uncertainty. These ups and downs probably did more to hold back mass production of housing and efficiency in building than any other single factor."

Child of the 50s. Warehousing has grown up since 1950* as a matter of accommodation to a mortgage broker who was short of funds to buy mortgages he expected to resell shortly. Last year, experts worked out improvements which had the effect of augmenting the total supply of money for long-term mortgage investment (Nov., News). Now, with recent big warehousing deals arranged by Prudential Insurance Co. and a new one between Chase Manhattan Bank and Institutional Securities

* Before the celebrated Treasury-Fed accord of 1951, lenders who wanted to pour more money into mortgages usually just sold their war-swollen holdings of government bonds.

Corp. (see col. 3), some federal officials figured as much as \$2 billion might be involved in warehousing. Concern over the inflationary aspects of the situation reached all the way to the President's Council of Economic Advisers.

Savings & loan 'warehousing.' Besides the \$2 billion in bank warehousing, Home Loan Banks had about \$1 billion out in advances to member savings and loan institutions. Such loans are, in effect, another way of using short-term credit for long-term lending. S&Ls use the loans to step up mortgage lending, and the Home Loan Bank Board raises the money by floating consolidated debentures (at about 2 1/2%) in the commercial money market. In line with other credit-tightening, the Cincinnati Home Loan Bank last month upped its loan rate to members from 2 3/4% to 3%. There were hints others would do likewise.

Construction loans tighten. In step with the general credit tightening, construction loans in some cities grew harder to get, or commanded higher interest. Mortgage Banker William A. Clarke called the situation "awfully tight" in Philadelphia. There were reports there lenders may double the standard 1% fee. In Detroit, some banks had boosted fees to 1 1/2%. Mortgage Banker Robert Pease noted "quite a tightening" in construction funds during the last 60 days. In Chicago and Jacksonville, Fla. mortgage men reported interest rates up 1/4%—reflecting the jump in

the New York prime rate for commercial paper from 3 to 3 1/4%.

With mortgage money in as short supply as any time since 1953, could the ban on new 30-year, no-down VA loans prop up prices under the ones remaining on the market? Extreme-term loans had been going at discounts ranging from 2 to 5 points, sometimes more. Under ordinary conditions, prices might well have firmed up. In the face of huge demands for credit plus the Fed-inspired squeeze on expanding funds, discounts generally increased last month (see *Mortgage Quotations*, p. 45). "The best indication," commented Boston's Robert Morgan, "is that some suppliers are lowering the prices themselves without any urging." It could well be several months before the picture changes.

Builders cramped by big discounts could take some comfort from one economic fact-of-life: the tighter money gets now, the sooner and more certainly it will get easier later.

\$250 million warehouse deal for Chase Bank

The fourth major mortgage warehouse deal of the type opposed by New York's Federal Reserve Bank was closed last month. Chase Manhattan Bank granted Institutional Securities Corp. a line of credit up to \$250 million to buy FHA or VA home loans.

Although the deal was actually approved long after the Fed's warehousing warning, it was not a pure case of flaunting the money authorities; the plan had been under negotiation for several months.

Institutional Securities, which is owned jointly by New York State savings banks, will buy mortgages for its owner-banks and warehouse them with Chase from 90 days up to a year. Chase will get a collateral note, at

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HOW CONGRESS SLASHED FUNDS FOR HOUSING

AGENCY	ACTUAL FY 1955	PRESIDENT'S BUDGET* FY 1956	CONGRESS VOTED FY 1956	DIFFERENCE 1955-1956
HHFA				
Off. of administrator (incl. URA, CFA)	\$3,968,500	\$5,700,000	\$5,000,000	+ \$1,031,500
College housing	375,000	575,000	500,000	+ 125,000
Liquidating programs	340,000	300,000	270,000	- 70,000
Public facility loans	75,000	75,000	40,000	- 35,000
Public works planning	1,500,000	8,500,000	3,000,000	+ 1,500,000
Urban planning grants	1,000,000	4,000,000	2,000,000	+ 1,000,000
Urban renewal capital grants	39,000,000	60,000,000	50,000,000	+ 11,000,000
Home Loan Bank Board				
Board proper	775,000	920,000	920,000	+ 145,000
Executive division	2,395,000	2,870,000	2,995,000	+ 600,000
Federal Savings Loan Insurance Corp.	455,000	500,000	985,000	+ 530,000
FHA				
Headquarters	5,625,000	6,650,000	5,900,000	+ 275,000
Field offices	31,560,000	38,350,000	33,000,000	+ 1,440,000
PHA				
Administration	7,350,000	8,800,000	8,200,000	+ 850,000
Low-rent subsidies	68,050,000	87,000,000	81,750,000	+ 13,700,000
FNMA				
	3,238,000	3,950,000	3,950,000	+ 712,000

* exclusive of supplementals and amendments

CONGRESS CUT housing agency budgets so far below what the administration asked that FHA last month was cutting its staff from 4,880 to 4,800. The agency was trying to do so without firing anybody; normally about 60 people a month quit or retire. Typical move:

it cut the personnel authorization of the San Francisco office, one of its busiest, by 25. While lawmakers squeezed money-making FHA (it made \$66 million profit last fiscal year), they voted 14 times as much for public housing subsidy as six years ago.

National Advertising

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3½%, and assignment of the paper. Each loan—Institutional expects to handle only VAs—will be earmarked for a particular participating bank. It is up to local savings banks to pick what mortgages they want to buy under the plan. Institutional will screen them for acceptability for the warehouse.

Said Vice President John Scully of Chase: "Primarily, this plan will help small savings banks outside New York City. It puts the mortgage investment department of the savings bank in the same position as the bond department, because the mortgages involved are already approved, are in existence, the legal ramifications are worked out and the mortgages are immediately available without the usual 6-7 months delay."

The Chase-Institutional plan is similar to Prudential Insurance Co.'s celebrated \$350 million warehouse deal (Feb., News) except that Prudential sold mortgages from its own portfolio while Institutional will buy mortgages from originators.

FHA steps up its drive to recapture windfalls

FHA's campaign to gain control of windfall corporations and recapture their distributions of mortgaging-out profits was in full swing.

The agency had begun action against sponsors of nine Sec. 608 projects.

One project—Linwood Park in Ft. Lee, N. J.—was under FHA management.

Action on the others varied from initial moves by FHA to call a stockholders' meeting to some real test cases of whether the agency has the legal power to move in.

Preferred stockholder. FHA's position as the only preferred stockholder in the building corporation enables the agency to call a meeting of preferred stockholders (itself) if it thinks that the charter it issued the corporation has been violated. FHA has mentioned a number of alleged violations which it intends to examine: illegal stock redemptions, illegal loans and failure to file a cost questionnaire are some of them. Another of the basic premises on which the agency was proceeding was its interpretation that a Sec. 608 charter forbids payment of dividends from any funds except net earnings. Excess of insured mortgage over cost of a project, say FHA lawyers, does not constitute net income. One legal tangle that will result from introduction of this argument by FHA is that some states have laws that allow payment of dividends from net income or from excess capital. Determination of whether the charter is permissive or restrictive in these states will be a first point in the courts.

The Linwood Park case in New Jersey (which included 13 building corporations) as it happened did not concern dividends. In this instance, FHA charged that the charters had been violated by the corporations' redemption of stock without FHA approval, by issuance of illegal loans (without the preferred stockholder's approval) and by the corporation's failure to answer a cost questionnaire. These charges were upheld in federal court and FHA was able to vote out the directors and take control. The corporation has appealed.

Double test case. An important trial will come up this month in the US district court

for the eastern district of Virginia when FHA brings suit against two projects for their handling of distributions to stockholders. FHA has reported that Shirley Duke Apts. in Alexandria, Va. and Beverley Manor Apts. in West Columbus, Ohio (a Virginia corporation) between them amassed \$3.25 million in excess funds. The cases, which will be heard the same day, will constitute the first court test of the validity of FHA's claim that certain dividend payments by 608ers are charter violations.

Meantime, a federal grand Jury in Brooklyn indicted Builder Alfred L. Kaskel, president of Carol Management Corp., Abraham Traub, an attorney, Isidore Weckstein, former president of the now defunct Metropolitan Industrial Bank of Brooklyn and Samuel Greenberg, an accountant. The charge: the four men conspired to conceal from the Federal Deposit Insurance Corp.'s bank examiners the true conditions surrounding loans they made for two housing projects—Churchill Manor and Dara Gardens, both in Long Island.

FHA tightens insulation, vapor barrier requirements in semiannual MPR revisions

FHA completed its summer batch of changes in minimum property requirements last month.

The major revision was an 8% increase in insulation requirements. The agency also tightened up slightly on vapor barrier rules. And it made three money-saving changes in requirements for slab-on-ground houses recommended in a technical study by Building Research Advisory Board. (For details on the slab changes, see p. 160).

Semiannual overhaul. The six new changes followed nine in July (August, News). They constitute the beginning of what FHA officials hope to make a regular semiannual overhaul of the standards that govern FHA and VA housing.

Upgrading of insulating requirements involved chiefly a reduction from 60 Btu's to 55 Btu's per sq. ft. of floor area for calculated hourly heat loss. For dwellings heated principally by electric resistance units, FHA set up a heat loss maximum of 40 Btu's per sq. ft. of floor area. Previously, there had been no separate requirement for electrically heated houses in the MPR books.

The new rules also established maximum heat loss coefficients for walls, ceilings and floors, set new requirements for perimeter insulation of floor slabs on ground and tightened regulations for installing loose-fill insulation. Details:

► *Perimeter insulation* for concrete floors on ground must now be "1) noncapillary, 2) not permanently harmed by wetting or by contact with wet concrete mix, 3) not subject to damage by fungi or termites and 4) have a resistance to compression such that: a) the reduction in thickness under a uniform loading of 50 lbs. per sq. ft. shall not be more than 10% of the initial thickness and b) the additional reduction in thickness under a uniform loading of 90 lbs. per sq. ft. shall not be more than 6% of the thickness measured under the initial 50 lbs. loading." The old rules for insulating the edges of slabs-on-ground called for material meeting thermal resistances shown in an FHA table, with installation procedures approved by local chief underwriters. New tables distinguish between heated and unheated slabs. They also contain data showing how wide perimeter insulation should be depending on the climate or conductance of the material involved.

► *Loose fill insulation* is now banned in houses with a roof slope of less than 3" in 12"—unless they are built without attic fans and are ventilated by some other means than eave vents.

► In houses with a roof slope of 3" in 12" or more and attic fan or eave vents, loose fill insulation

will require "precautions" to prevent loss of insulation into the air stream from the fan or plugging of eave vents by blowing insulation. (FHA has had much trouble with the latter. If loose fill insulation plugs up eave vents, excess water condensation sometimes leads to rotting.)

► Labeling requirements for insulation—changed only a year ago—again were tightened slightly. *Batt and blanket insulation* without reflective surfaces must show name of manufacturer or national distributor and specified thickness in inches. Combination batt or blanket insulation with reflective surfaces must show name of maker or national distributor, specified thickness in inches and manufacturers' designation as to type or number. Labeling, FHA ruled, must now be "permanently" fixed to insulation "at the manufacturer's plant or printed, stamped or embossed at regular intervals on the insulating material" so there is at least "one label per 40 lineal ft. of insulation between framing members."

► For *blowing or pouring-type insulation*, a card at least 6" x 6" must now be installed "in a prominent location adjacent to the insulation" showing 1) name of the manufacturer or national distributor, 2) trade name of the insulation, 3) specified thickness of it, 4) that installed thickness is adequate to maintain the specified thickness, 5) that installation was made at manufacturer's recommended density and 6) date of installation.

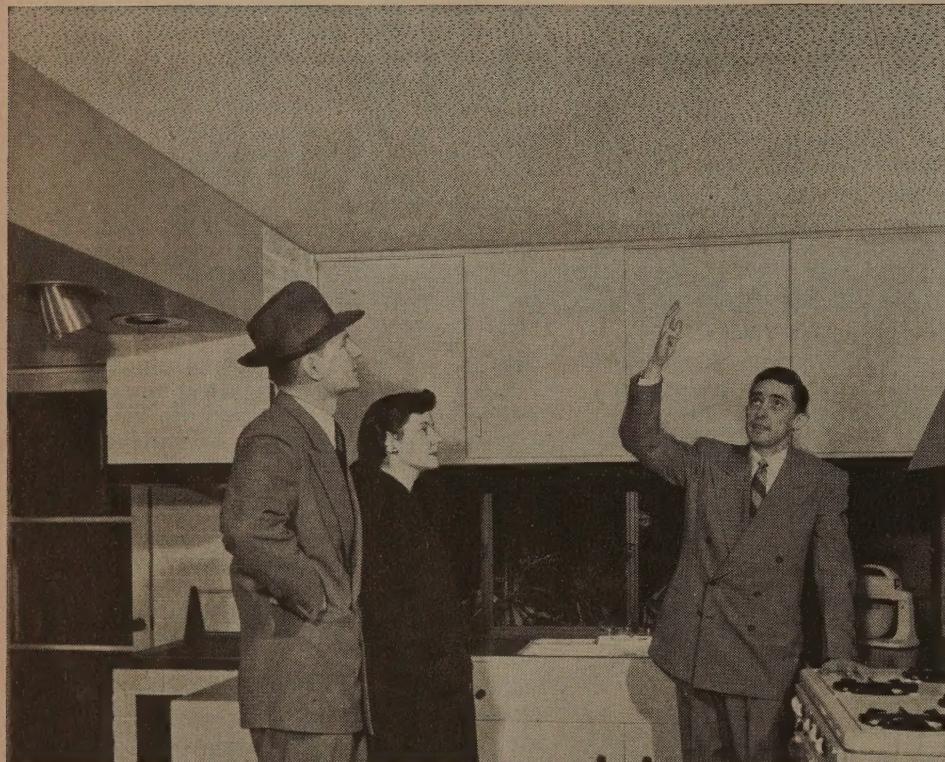
Seal against cold. Tightening of vapor barrier rules will affect most of the northern and northeastern US, but the new rules are close to what most FHA offices were already requiring. A new MPR provides: "Where walls and ceilings contain materials adversely affected by moisture or by freezing in the presence of moisture (e.g. frame), an effective vapor barrier having a vapor permeability of no more than one perm shall be provided on the warm side of the wall or ceiling under the following conditions:

"1) when U value for the wall is lower than .25 Btu per hour per sq. ft. per degree F, and 2) when the wall has a siding or sheathing or sheathing paper or any other material on the cold side which has a water vapor permeability of less than .5 perms and the dwelling is located in an area with a design temperature of 0° F or colder."

In areas where outside design temperature is 0° F or colder, FHA also will require a vapor barrier with no more than ½ perm on the warm side of combination ceiling-roof construction. Where design temperatures are -20° F or colder (Alaska, parts of Minnesota and the Dakotas) a one perm barrier will be required on the warm side of ceilings below ventilated attic spaces.

Make a small house feel bigger by making it quieter

**Install low-cost sound-conditioning
ceilings of Armstrong CushionTone**



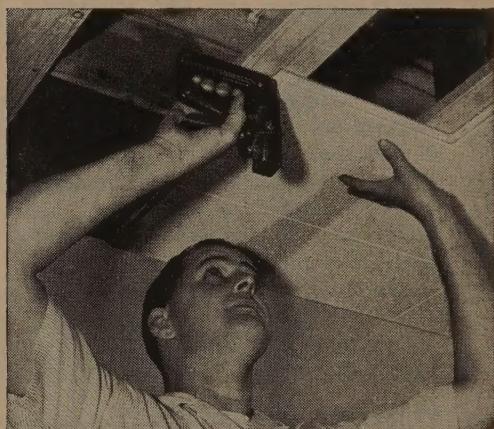
Sounds don't spread to other rooms. Impress prospects by telling them how CushionTone muffles kitchen clatter before it spreads . . . prevents TV blare from traveling to other rooms. Smart-looking CushionTone ceilings add little to the cost of a home but add tremendously to its sales appeal. They require no more maintenance than painted plaster.



Free promotional material. Sound conditioning is news. Promote it with signs in sound-conditioned rooms and in front of your houses. For free posters, see your Armstrong dealer or write Armstrong Cork Company, 3909 Sixth Street, Lancaster, Pa.



Quiet homes are easier to sell. Compactly designed homes have extra need for sound conditioning. The hushed atmosphere provided by CushionTone noise-quelling ceilings gives a small home a feeling of "more room" . . . and helps turn prospects into buyers.



Quick, easy installation. CushionTone is a complete ceiling in itself . . . goes up fast without special tools or training. It's quicker and less fussy than plastering or drywall. No painting or other finishing is needed to complete the job.



Advertised in national magazines. Your best prospects are already interested in sound conditioning their homes. Each month they read full-page CushionTone ads in America's two largest "shelter" magazines.

Armstrong CEILINGS

including CushionTone® and Temlok® Tile
... to quiet and beautify homes

HOUSING STATISTICS:**High-cost building areas pinpointed by FHA study**

Why does the same unheated house that costs \$6,224 in Phoenix cost \$9,157 in Cleveland? Why does it cost \$1,061 more in San Francisco than in Los Angeles? Why has its cost gone up \$267 since January 1 in Cleveland and \$313 in Grand Rapids, but come down \$198 in San Antonio and \$63 in Casper? Why are the highest cost home building areas (except Reno) in the middle west?

Those questions—and a lot of others—are raised by FHA's semi-annual study of comparative house costs (excerpted below). The July 1 figures showed increases in 36 of the 71 reporting offices, decreases only in three. Last January, only 13 areas reported an upturn in costs.

**COMPARATIVE ESTIMATES—STANDARD HOUSE
897 SQ. FT. ONE STORY FRAME, BASEMENTLESS, NO HEATING**

City	Cost July 1	Change since Jan. 1	City	Cost July 1	Change since Jan. 1
Albany, N. Y....	\$7,811	none	Memphis	\$6,399	none
Atlanta	6,708	+45	Miami	7,117	+137
Baltimore	7,418	none	Milwaukee	8,515	+171
Birmingham	6,560	none	Minneapolis	8,093	+80
Boston	7,674	none	Newark	7,419	+55
Buffalo	8,701	+74	New Orleans ...	7,532	+176
Casper, Wyo....	7,384	-63	Oklahoma City ..	6,626	none
Chicago	8,669	+135	Omaha	7,988	+76
Cincinnati	8,200	+71	Philadelphia	7,189	none
Cleveland	9,157	+267	Phoenix	6,224	none
Columbia, S. C.	6,623	+62	Pittsburgh	8,064	none
Dallas	6,703	none	Portland, Ore....	7,593	none
Denver	6,878	none	Reno	8,325	+81
Des Moines	8,551	none	Richmond, Va... .	7,163	+131
Detroit	7,761	+73	St. Louis	8,260	+153
Grand Rapids ...	8,146	+313	Salt Lake City...	7,647	+21
Hartford	7,767	none	San Antonio	6,967	-198
Houston	6,942	+71	San Diego	7,662	+219
Indianapolis	7,644	none	San Francisco ..	7,682	none
Jacksonville	7,273	none	Seattle	7,673	none
Jamaica, N. Y... .	7,449	none	Spokane	7,239	+63
Kansas City	7,797	+71	Springfield, Ill... .	8,870	-85
Little Rock	6,773	none	Topeka	7,598	none
Louisville	7,894	none	Tulsa	6,739	none
Los Angeles	6,621	+235	Washington	7,383	+127
Lubbock	6,949	+128	Wilmington, Del.	7,513	+129

MORTGAGE MARKET QUOTATIONS

(Origination quoted at net cost, secondary market sales quoted with servicing by seller)
As reported to House & Home the week ending August 12th

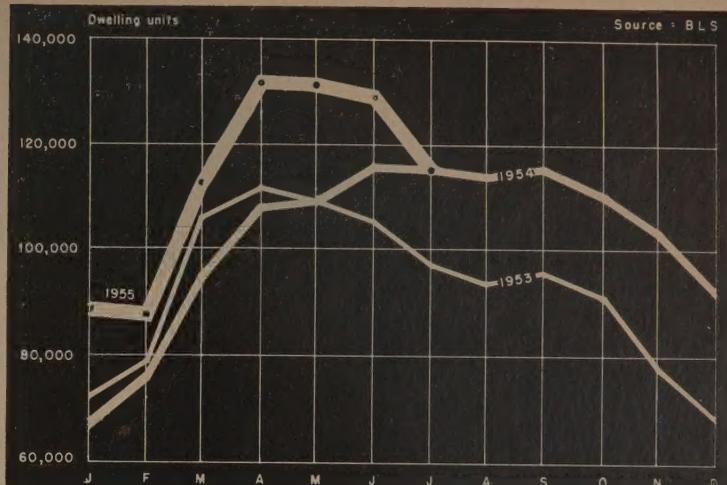
City	5% equity or more				VA 4 1/2's	
	FHA 4 1/2's		VA 4 1/2's		Orig- nations	Second- ary
	Origi- nations	Second- ary	Origi- nations	Second- ary		
Boston local	par-101	a	par-101	a	par-101	a
Out-of-state	a	97 1/2-98	a	96-98†	a	95-97 1/2††
Chicago	96-98	97-99 1/2	96-98	97-99 1/2	a	a
Denver	98-par	98-par	98-99	98-99	96 1/2-99	96 1/2-99
Detroit	97 1/2-99 1/2	98-99 1/2	96-99 1/2	97 1/2-99	97 1/2-99*	c
Houston	98-99	98-99	98-99	98-99	b	96 1/2-98
Jacksonville	98-par	98-par	96-par	96-98	96-97	96-97
New York	99-99 1/2	99-99 1/2	99-99 1/2	99-99 1/2	99-par	99
Philadelphia	99-par	99-par	98 1/2-par	98 1/2-par	97 1/2-98	97 1/2-98 1/2*
Portland	par-97		99		88 1/2-95	
Washington, DC	par	99-par	99-par	98-par	97 1/2-99	97-98 1/2**

* No market.

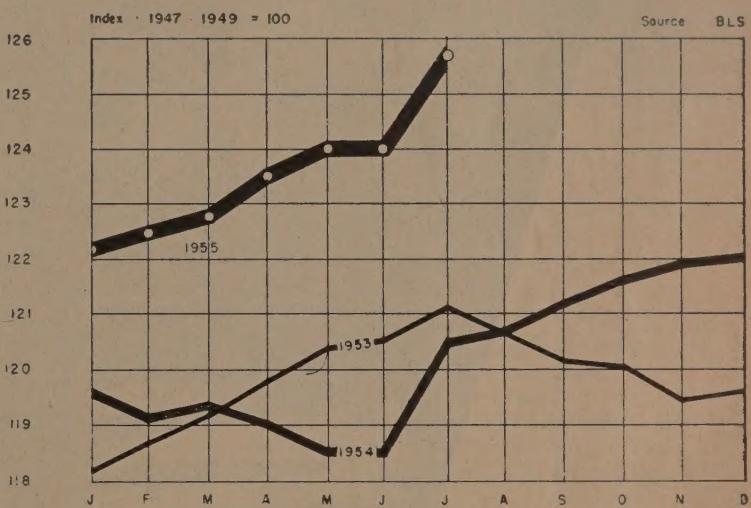
† Market not yet established.

‡ Unstable market.

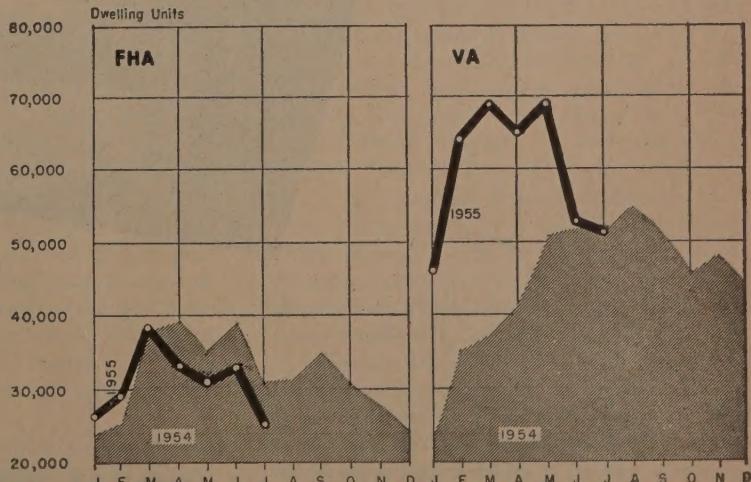
SOURCES: Boston, Robert M. Morgan, vice pres., Boston Five Cents Savings Bank; Chicago, Maurice A. Pollack, vice pres. & secy., Draper & Kramer, Inc.; Denver, C. A. Bacon, vice pres., Mortgage Investment Co.; Detroit, Robert H. Pease, pres., Detroit Mortgage & Realty Co.; Houston, Donald McGregor, exec. vice pres., T. J. Bettes Co.; Jacksonville, John D. Yates, vice pres., Stockton, Whatley, Davin & Co.; New York, John Halperin, pres., J. Halperin & Co.; Philadelphia, W. A. Clarke, pres., W. A. Clarke Mortgage Co.; Portland, Ore., Franklin W. White, pres., Securities, Inc., Washington, D. C., George W. DeFranceaux, pres., Frederick W. Berens, Inc.

NONFARM HOUSING STARTS

The rate of home building was steadily dropping. July starts totaled 115,000 (114,200 private, 800 public) BLS reported. That projected to an annual rate of only 1,202,000, lowest for the year. Except in June, the annual rate has fallen every month since January (when it peaked at 1,416,000).

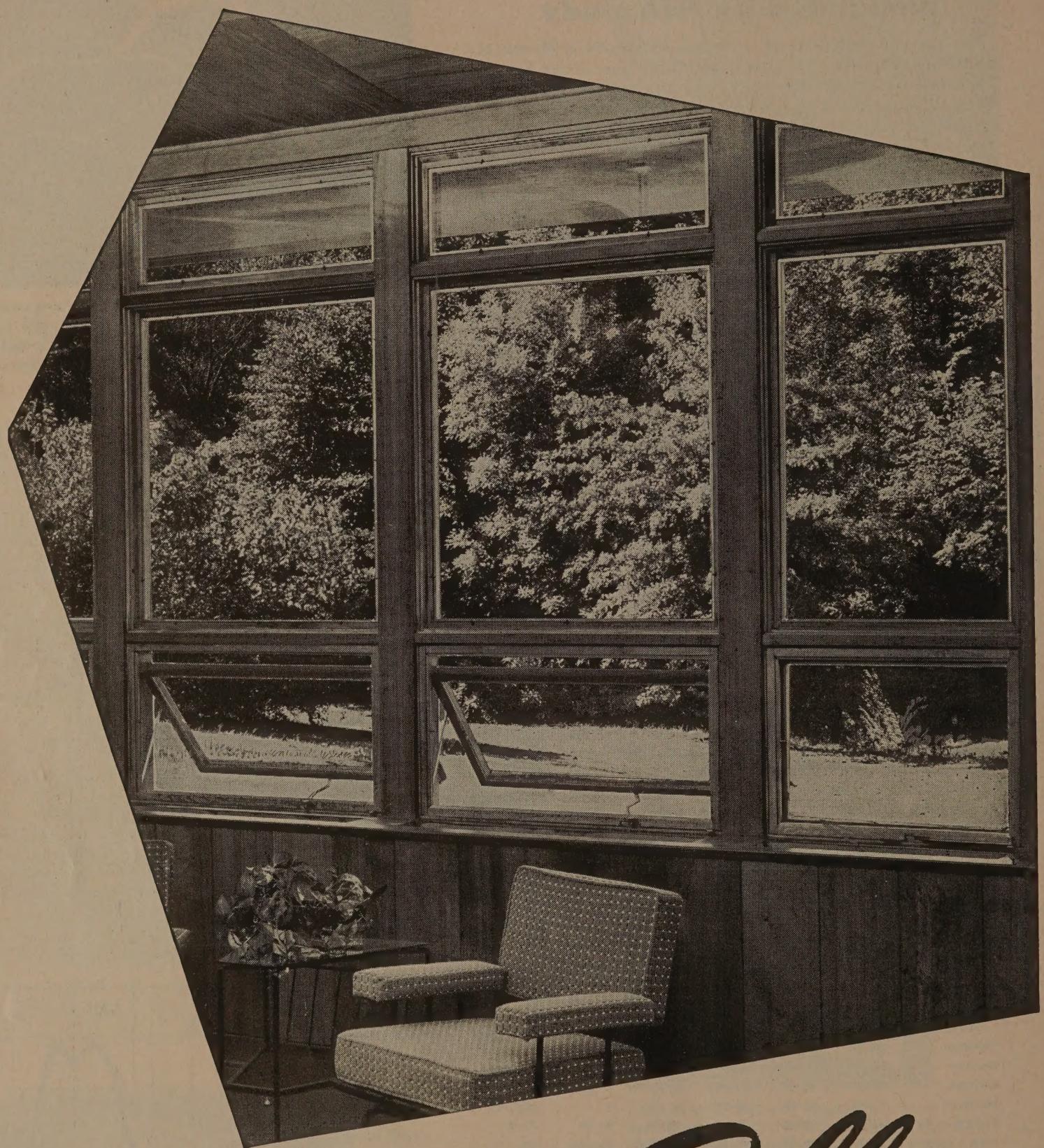
BUILDING MATERIALS PRICES

Building materials prices charted by BLS zoomed to a new all-time sky-high of 125.7 in July. The jump of 1.6 points from June was prodded by whopping increases in asphalt roofing, structural clay products, plate glass and metal doors, sash and trim. The rise appeared to confirm the long-predicted price inflation of construction's biggest year.

FHA AND VA APPLICATIONS

FHA applications dropped to 25,197 new dwelling units in July, 7,324 below the June lead and 6,011 below May. VA appraisal requests for proposed homes slid to 51,412 in July, a drop of 20,527 from the year's peak in March (71,939).

NEWS continued on p. 49



Pella
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MULTI-PURPOSE WINDOWS

PEOPLE: Appeals court acquits Clyde Powell; ouster of Dr. Frank Horne from HHFA racial post stirs ruckus

A lot of people in homebuilding still think the government was guilty of outrageous misrepresentation in much of last year's FHA Sec. 608 scandals.

Last month, the US Court of Appeals for the District of Columbia applied just that epithet to one phase of it—the contempt conviction of **Clyde L. Powell**, former asst. FHA commissioner for rental housing. The 58-year-old Powell, who resigned about the time the FHA probe began, was sentenced to a year in jail last October by Federal Judge **F. Dickinson Letts** for refusing to answer

questions before a grand jury about official diaries and calendars. But the three judge appeals court ruled that Justice Dept. prosecutors had "misled" Judge Letts with "grossly inaccurate" information and that Powell's conviction was "contrary to the evidence." (**Max Goldschein**, asst. US attorney for the District of Columbia, presented the Powell case to both the jury and the judge.)

Letts ruled Powell did not "successfully or effectively" invoke the Fifth Amendment to avoid answering questions that might incriminate him. The appeals court, after reading transcripts of the grand jury testimony, ruled that Powell had properly answered the questions about his diaries during his 19½ year reign over FHA's rental housing programs.

Powell had been subpoenaed to appear before the jury and bring his "official diaries" with him. When asked to produce them, he replied: "I have no such diaries. Whatever I had was left in my office." When Goldschein asked if Powell took any diaries out of his office, Powell replied: "No, sir."

Later, when Powell was taken before Judge Letts, Goldschein told the court that Powell had claimed his constitutional privilege when asked if he had taken the diaries from his office (as he had when the question was asked him again before the grand jurors). Ruled the appellate court:

"The government faces a dilemma. Either Powell, when he appeared before the grand jury for the third time, had not answered the questions and so had the privilege of refusing to incriminate himself when he was asked them, or he had answered the questions and the government was guilty of outrageous misrepresentation to the trial judge concerning what transpired before the grand jury." The appeals judges—**E. Barrett Prettyman**, **George T. Washington** and **John Danaher**—sent the case back to district court with instructions for acquittal. Powell, since his conviction, had been free on \$5,000 bail. His contempt acquittal left the government with not a single formal charge pending against the man its investigators had called the key figure in the "windfall scandals."

William F. McKenna, former special deputy HHFAdministrator who was called in to investigate FHA, accused Powell a year ago of accepting more than \$100,000 from apartment builders who dealt with FHA. Powell vigorously denied that "Mr. McKenna or anyone else" had any evidence that he had been paid any money by any builder in connection with his official duties. Up to last month, no criminal charges had been filed against him.



POWELL

"I'm the hot potato in the federal housing field," said **Norman H. Hunt** last month. "If I hadn't resigned, they would have tried to put an injunction on the book."

Cost Analyst Hunt, who spent six years as chief construction cost examiner in FHA's Manhattan office, fell afoul of the authorities when he published a carefully-documented volume of home builders' costs in 70 market areas across the nation (*Builders Cost Manual*, by Builders Research Associates, 260 W. 41st St., New York 36, N. Y.). First they asked him to resign; then they decided to ask him to retire, to keep the slate clean. Hunt says he is still friends with his ex-employers and knows perfectly well why he was removed. FHA has a rule that no employee can write a book without previous permission from FHA headquarters. Why didn't he get permission? "I would have had a beard down to my feet," said Hunt.

Hunt, who put his name—but not his affiliations—on the book, reports that **HOUSE & HOME**'s review of his book (July issue), with its interpretive paragraph—not attributed to Hunt—on the influence of restrictive labor practices on building costs, also piqued FHA's bosses. "But it only forced the issue," said Hunt. "Things would have happened the way they did, anyway." He has sold close to 1,000 copies of the book, intends to update it next year with chapters on costs for hotels, motels and government buildings.

While Hurricane Connie boiled up the eastern seaboard, a political storm of similar proportions blew up around HHFA's **Frank S. (for Smith) Horne**.

Dr. Horne, a Negro, let it be known that he and his assistant, Mrs. **Reni Corrine Morrow**, were being fired. Democrat Horne, 56, a \$12,685-a-year assistant to HHFAAdministrator **Albert M. Cole** who specializes in minority housing, said he was told the ousters were for budgetary reasons, and to reduce the staff. Snorted Horne: "There ain't no such animal." He promptly appealed, contending his

discharge, after 19 years in government service (17 with housing agencies), was invalid because of his Civil Service status and his additional employment preference as a veteran.

It was the second time that Republican efforts to oust Horne from a top HHFA job stirred up a fuss. Two years ago, he was scheduled to be fired as HHFA racial relations adviser after that job was reclassified as a "Schedule C" position—i.e. to be filled by a political appointee. When the news got out a storm of protest arose and Cole compromised. Republican **Joseph R. Ray**, a Negro Louisville realty dealer and home builder, got the race relations adviser title. Horne was retained as a special assistant to "study new approaches to the housing problems of minorities."

Had Horne and Administrator Cole split over policy differences? Horne denied it. Cole dodged comment. But sources close to the situation were quick to pin Horne's removal on his insistence that Negroes should press for integration in federal housing now. Cole is for moderation.

On the floor of the House of Representatives Rep. **Adam Clayton Powell Jr.** (D, N.Y.) cried: "The main issue is whether or not political action is to disrupt a tested professional operation in the field of race relations and to dislodge a competent career employe." Rep. **Wayne L. Hays** (D, Ohio) called the ouster a "bare-faced violation" of Civil Service rules.

At midmonth, Cole tried to compromise again. He offered Horne a new job as a special assistant for international housing. Horne declined it.

Earl De Laittre, 49, executive director since 1951 of the Home Builders Assn. of Greater Cincinnati, was elected president last month of the NAHB executive officers council. Also elected: **Leo Mullin** of Kansas City, first vice president; **Robert Barker** of Charlotte, N.C., second vice president; **S. A. Dansyear** of Miami, secretary; **Eugene Miller** of Denver, treasurer.

Chris O. Christenson resigned as NAHB's director of technical services to join Builder **John H. Bauer** of Indianapolis. Engineer Christenson, former property requirements chief for FHA, had been with the NAHB technical staff 3½ years, concentrated on ironing out problems with FHA and VA. Simultaneously with his departure, NAHB announced the appointment of **Gordon G. Hazell**, 38, as asst. director of its construction department and Research Institute. Hazell had been an architectural engineer for VA. Another former (until 1952) NAHB technical director, Architect **Carl G. Lans**, last month was named technical boss for the home building industry's "Homes for Korea" program (June, News). Lans has been technical adviser to Builder **Earl Smith**.

H. Jackson Pontius of Pasadena, Calif. was named state secretary of the California Real Estate Assn. Assistant state secretary and educational director of the 11,000-member CREA since 1948, Iowa-born Pontius replaced **Eugene P. Conser**, who took office as executive vice president of the Natl. Assn. of Real Estate Boards Sept. 1.

DIED: **John J. Roache**, 61, executive vice president (1935 to 1953) of the Milwaukee Board of Realtors, July 2 in Milwaukee; **Frederick C. Shipman**, 84, Detroit realtor and past president of both the Michigan Real Estate Assn. and the Detroit Real Estate Board, July 9 in Grosse Pointe Woods, Mich.; **Leland P. Reeder**, 64, former vice president and director of the Natl. Assn. of Real Estate Boards and one-time president of the California Real Estate Assn., July 11 in Beverly Hills; **J. Harry Dickman**, 70, past president of the Home Builders Assn. of Greater Cincinnati, July 12 in Cincinnati; **Ramsey Findlater**, widely known executive director of the Cincinnati Metropolitan Housing Authority and one-time (1952-53) acting president of the Natl. Assn. of Housing Officials, July 24 in Cincinnati; **J. H. Collier**, 70, former president and board chairman of Crane Co., Chicago manufacturers of plumbing and heating equipment, July 27 in Fairfield, Conn.; **Richard S. Reynolds**, 73, founder, chairman of the board and former president of Reynolds Metal Co., second largest producer of primary aluminum in the US, July 29 in Richmond, Va.; **Edward C. Crossett**, 73, president of Crossett Timber Co. of Wauna, Ore., board chairman of Crossett Co. of Crossett, Ark., July 30 in Santa Barbara, Calif.

NEWS continued on p. 52

The Barnes brothers of Long Island . . . **Add
like this with Bildrite**



"Sheathing time? We cut it almost in half with Bildrite," report Bob and William Barnes, Barnes Building Co., Garden City, Long Island. "Bildrite practically eliminates matching loss and waste, too. On homes like this, we get better insulation value, greater sidewall strength—and save \$98

besides." Pictures and captions at right show how Bildrite can help you build better and save.

For more facts on how you can build better and save with Bildrite, write for free cost-comparison forms and literature to Insulite, Minneapolis 2, Minn.

Build better and save with

INSULITE

INSULITE AND BILDRITE ARE REGISTERED TRADE MARKS

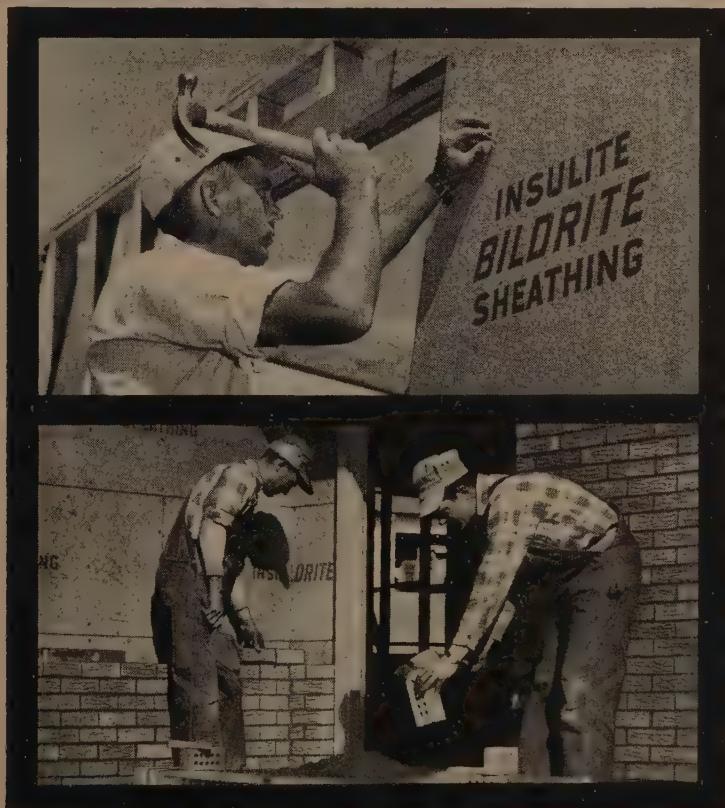


Made of hardy Northern wood



INSULITE DIVISION, Minnesota and Ontario Paper Company, Minneapolis 2, Minnesota

quality to homes ...at a \$98 saving



Bildrite goes up faster, easier. One carpenter can sheath 1,000 square feet in 8 hours or less with Bildrite. Cuts application time as much as 43% compared with wood. Adds strength. 4' Bildrite has more than twice the bracing strength of horizontal wood sheathing, thus eliminates corner-bracing. Waterproofed throughout with asphalt. No need for building paper. Can be used or stored anywhere in any weather.

Reduces waste, easy to cut. Bildrite cuts cleanly, quickly, easily with power saw or hand saw. Practically eliminates matching loss and waste. Compare Bildrite's full coverage with the minimum of 12% waste figured on horizontal wood sheathing jobs. And while Bildrite is waterproofed with asphalt it is still highly permeable to allow vapor to escape from inner wall areas. It's clean... easy to handle. Carpenters like to work with Bildrite.

continued from p. 49

SIDELIGHTS

No overbuilding—S&Ls

The US Savings & Loan League's 1955 trends and economic policies committee took a hard look at "overbuilding" in its midyear report last month and concluded:

"It would be very easy to build too many houses if they were of the wrong type and placed in the wrong locations. It would appear to be difficult under current conditions, however, to build too many well designed and properly equipped houses located in desirable neighborhoods."

NY builders plan big exhibit

A home building exposition, billed by its promoters as the largest of its kind yet undertaken, will be held next May 12-20 in the nation's largest exposition building, the New York Coliseum, which will open April 28. New York State home builders have formed Home Building Industry Presentations, Inc. to sponsor the show. More than 500,000 persons are expected to see it and about 15,000 will be needed to staff the 500 exhibits of building materials and furnishings, according to Charles M. Jaeger, president of both Presentations Inc. and the state builder group.

Boom on wheels

Trailer makers were having the biggest year of all time. The Mobile Homes Manufacturing Assn. reported unit sales for the first six months rose a handsome one-third over the same period last year (to 47,107). The industry was forecasting 90,000 sales in 1955 for more than \$400 million. The nation's trailer population, says the industry, is now over the 2.5 million mark and trailers are getting bigger all the time as their owners become permanent residents of wheeled homes. With FHA insurance, the association is predicting capital investment in trailer parks, now \$500 million, will double in the next few years.

Drought amid the lakes

Despite the fact that Detroit is virtually surrounded by water (the Great Lakes plus thousands of inland lakes), the greater Detroit area is short of water. The Detroit Water Board, which services most of the communities in the southeastern corner of the state, has been unable to keep pumping and pipe facilities abreast of booming residential and industrial growth. The result has been a ban on many water uses like lawn sprinkling. But the suburbs have gone right on building.

Last month, the water shortage-in-the-midst-of-plenty caught up with suburban Livonia, producing one of the worst community facilities crises yet faced by a US city. Mayor Elbert M. Hartom ordered a flat ban on building permits. His action would halt a building boom which had almost trebled Livonia's population in five years (from 17,000 to 50,000). More water is blocked by a citizen's suit to prevent erection of a huge storage tank in a residential neighborhood. On top of that, health officers were readying an order forbidding opening of three new Livonia schools until more sewers are built. Epidemic danger, they said.

NEWS continued on p. 55

(1) ARCO INTERIOR WALL FINISHES

Personalized Coronado
BY UNITED STATES STEEL HOMES, INC.



on every new home you build . . .

cut interior painting time IN HALF!

Now, you can get ideal one-coat coverage over drywall construction . . . in white or gay pastel colors . . . with oil-based Arco Alkyd Texture Wall Finish. This scuff-resistant, washable finish dries to a perfectly uniform sheen and color over taped joints . . . can be tinted with Arco Alkyd Tint Pastes to fit period or contemporary decorating schemes.

Arcozoon Unicolor Gray is a lacquer emulsion-type fleck coating. Sprayed over Arco Alkyd Texture Finish,

ish, it not only provides interesting decoration, but augments hiding of any checks which may appear in plywood wall construction.

Take a tip from United States Steel Homes and other leading manufacturers of prefabricated houses.

Give extra sales appeal to every house you build and at the same time reduce interior painting as much as one half! Write for details.



(2) ALKYD HOUSE PAINTS

(3) ALKYD WALL FINISHES

(4) INTERIOR ENAMELS

(5) FLECK COATINGS

(6) TEXTURE WALL FINISHES

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Cleveland 27, Ohio

Please send technical information on products checked above.
 Please ask your Arco specialist in this territory to call.

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COMPANY _____

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CITY _____ STATE _____



FHA underwriting and cost certification will be studied by Senate subcommittee

Between Congressional sessions, Sen. John J. Sparkman (D, Ala.), head of the Senate housing subcommittee, will dig into the workings of the housing industry with a series of round table discussions fortified by formal hearings if the need arises. He has \$100,000 and an investigating staff of 12 to do the job. Recently Sparkman came up with these answers to a series of policy questions asked by **HOUSE & HOME:**

Could not the cost certification provision of the 1954 Act be modified so as to stimulate rental housing and still prevent "mortgaging out"?

If the substitution of "replacement cost" for "value" and the emphasis we have placed on cooperative housing should fail to provide a sufficient amount of rental housing, we shall need to consider other steps. . . . I feel that it would be more difficult to control "mortgaging out" if the cost certification procedure were completely eliminated. Some modifications of the 1954 Housing Act must be made, though, if rental housing for either civilians or military personnel is to be constructed.

Do you intend to make a thorough study of how FHA's underwriting and valuation machinery works?

I do intend for the housing subcommittee to make a thorough study of FHA's underwriting system and, in fact, that study is going on at the present time. . . . What we are seeking to do through study and evaluation of data made available to us, is to determine which of the FHA offices appear to have the best and, conversely, the poorest records with respect to such things as applications approved and disapproved, mortgages foreclosed, and losses on disposal of foreclosed properties. . . . In one instance we found no clear understanding of how cost certification information would be processed. Obviously, steps must be taken by the FHA to clarify this confusion.

Do you propose to give Title I further scrutiny to be sure that it has been cleaned up properly?

The housing subcommittee will examine as promptly as it can any emergency situation or serious complaints that develop. This includes Title I.

As you see it, will the proposed shift from long-term valuations to replacement costs be sufficient to make 220 work?

During the recent legislative hearings and during our round table discussions, the housing subcommittee was advised by the industry that the urban renewal program has not worked because of the reluctance of FHA to grant adequate mortgage amounts.

Sponsors have said that they could not proceed if overly large investments were required.

If this reluctance of FHA to increase the mortgage amount is actually preventing the urban renewal program from working, the change we have made from "value" to "replacement cost" should be helpful in that it will provide more practical mortgage amounts.

FHA's reluctance or excessive caution in insuring developments in slum areas is an entirely different factor and an obstacle diffi-

cult to remove by legislation. I think that FHA should consider that an urban renewal project will normally be designed to renew an entire area of the city and will not be restricted to one particular mortgage. In insuring an individual mortgage, FHA should take into consideration that the areas surrounding the project area are included in the urban renewal area and should some day be rehabilitated.

Some students of housing believe that there is no substitute for an adequate and workable public housing program. Do you agree with this view?

I do not hold the view that there can be no substitute for an adequate and workable public housing program. [But] to date we have not developed such a substitute and, in the absence of an adequate program to provide housing for our low-income citizens, I will continue to support public housing.

Once again, I must say that public housing,

along with every other housing program, should be studied. It may very well be that there are abuses in the public housing program of which we are not now aware.

There is, however, one major difference between this and many other programs. It has now, and always has had, substantial opposition in and out of Congress. It is continually criticized and continually studied by its opponents and there is no hesitation on their part in bringing to the attention of the Congress what they consider to be abuses in the program.

If other housing programs were the subject of such a continued scrutiny by outside sources, the need for continual study of all our housing programs by the housing subcommittee would not be nearly so great.

Is it possible that FHA in its regular program can do more for elderly persons?

On the one hand, FHA has a primary responsibility to protect the federal government against uneconomic contingent liability. On the other hand, there is the social question of whether we should deny an FHA-insured mortgage to a man because of his age. . . .

Vacancies in FHA-insured rental projects in 72 cities vary from less than 1% to 21%

Preliminary figures on vacancy rates in FHA-insured rental units showed a national average of 4.4%, nearly 1% higher than a year ago. Results of the survey, which were issued in bulk by FHA for the first time ever, were based on the vacancy situation in rental projects with FHA-insured mortgages outstanding on March 31. Commissioner Norman Mason cautioned that the figures might not be indicative of general vacancy rates on local levels—either because new FHA-insured projects might have a substantial vacancy rate when newly opened or because such projects might be atypical of the general rental market when older. The results:

Albany, N. Y.	4.2%	Lubbock	6.4
Albuquerque	1.7	Manchester, N. H.	10.0
Atlanta	5.2	Memphis	3.5
Baltimore	3.4	Miami	5.0
Bangor	1.9	Milwaukee	3.5
Birmingham	6.0	Minneapolis	5.8
Boise	18.3	Newark	1.4
Boston	5.7	New Orleans	21.4
Buffalo	1.7	New York	1.0
Burlington, Vt.	8.0	Oklahoma City	19.7
Camden, N. J.	6.8	Omaha	.8
Casper, Wyo.	2.4	Philadelphia	6.7
Charleston, W. Va.	6.1	Phoenix	3.7
Chicago	0.7	Pittsburgh	7.3
Cincinnati	5.6	Portland, Oreg.	7.0
Cleveland	4.8	Providence	11.3
Columbia, S. C.	7.1	Reno	1.2
Columbus, Ohio	4.7	Richmond, Va.	6.3
Dallas	7.2	Sacramento	2.8
Denver	2.6	St. Louis	5.2
Des Moines	3.5	Salt Lake City	6.1
Detroit	2.7	San Antonio	6.3
Fargo	8.4	San Diego	13.5
Fort Worth	11.6	San Francisco	3.9
Grand Rapids	3.1	Seattle	6.4
Greensboro, N. C.	2.3	Shreveport	21.1
Hartford	1.7	Sioux Falls, S. Dak.	1.0
Helena	1.1	Spokane	7.1
Houston	11.5	Springfield, Ill.	4.3
Indianapolis	11.5	Tampa	5.1
Jackson, Miss.	3.4	Topeka	1.3
Jacksonville	5.0	Tulsa	6.2
Kansas City	1.6	Washington	4.1
Little Rock	16.5	Wilmington, Del.	9.7
Long Beach, Calif.	2.2	Anchorage, Alaska	16.8
Louisville	6.3	Honolulu, T. H.	2.2
Los Angeles	3.9	San Juan, P. R.	.7

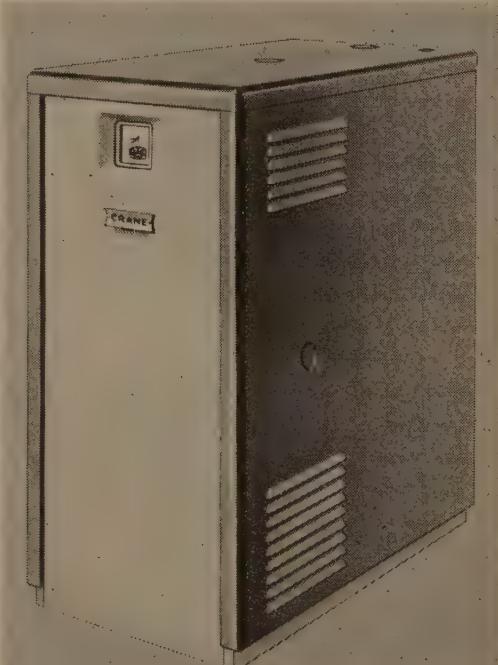
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*How to build in greater quality
and get a better price...*

CRANE RADIANT BASEBOARD



"It's almost invisible!" Your customers will be pleasantly surprised when they see how little space Crane Radiant Baseboard takes (only 1 1/8" out from wall). And you'll be surprised at how it will help sell houses for you.



**New F. H. A. mortgage regulations spur
quality home construction... and
quality homes mean hot water heat**

These days, your customers look for extra value in a house before they'll come up with the down payment. Thanks to new F.H.A. Regulations, they can afford to.

Crane Radiant Baseboard is the "something extra" that puts the tag of quality on a house . . . and helps bring a quality price—readily. It gives you the best heating "sales talk" you ever had.

Most people know that hot water heating is more comfortable and efficient . . . and Crane Radiant Baseboard has made hot water heating *modern* . . . providing clean, efficient draftless warmth the way the sun does—by radiation. Silent, inconspicuous, it takes virtually no space in a room. And a Crane Radiant Baseboard heating system will last as long as the house.

Your Crane Branch or Crane Wholesaler will be glad to give you more facts and figures that will help you get a better price for the homes you build—and a better profit.

**COMPLETE THE TEAM WITH
NEW CRANE SUNNYDAY CAST IRON BOILER
—WITH INSTANTANEOUS BUILT-IN
TANKLESS WATER HEATER**

Perfect partner for Crane Radiant Baseboard the new Sunnyday cast iron boiler is the greatest advance in home heating in 20 years. Saves up to 15% on fuel bills. Includes built-in tankless water heater with 3 gpm flow. Saves \$50 to \$150 on the installation of separate water heater.

CRANE



Dale Healy

RESEARCH HOUSE IN THE SAN FERNANDO VALLEY DESIGNED BY EDWARD FICKETT

BUILDERS AT WORK:

New firm offers California builders a package of plans, design, financing

"Most home builders still have a long way to go before they realize their full potential—and before they provide families with the kind of homes they should have in the middle of the 20th century."

That is the opinion of ex-Adman James San Jule, a former sales manager for Builder Joseph Eichler of Palo Alto, Calif.

Last month, setting out to do something about his view, San Jule announced formation of a radically new kind of service organization: a firm to take over analysis, planning, financing and merchandising for builders, leaving them free to concentrate on actual construction.

San Jule's outfit, **The Corporation of the Twentieth Century**, will package six services for about \$450 a house. 1) a housing market analysis, 2) subdivision and site planning, 3) architectural design, 4) a promotion and public relations program, 5) arrangements for takeout financing and loan processing, 6) obtaining FHA and VA commitments and guidance in dealing with other government agencies.

The corporation, headquartered in San Francisco (605 Washington St.), had lined up an impressive array of talented consultants and staffers. Among them: Architect William W. Wurster, dean of the University of California's college of architecture; Landscape Architect Edward Williams; Architect Donn Emmons; Planner Harold F. Wise; Engineer George S. Nolte; Appraiser Milton A. Crabtree; Researcher Hal Dunleavy; Delbert E. Becker, former president of the Richmond-El Cerrito Board of Realtors; Designer Don Knorr; C. W. Smith, director of the Housing Research Foundation and Engineer William A. Cyr.

The firm plans to build "between 50 and 100 homes a year in demonstration projects of our own." It will sell its services to builders willing

to put up at least 25 homes a year at one location. At last count, the corporation had signed deals covering 2,800 houses—all in California—for one or more of its services.

continued on p. 62



Art Huber

Builder house wins award in AIA competition in Washington

Only builder house to receive an award among 14 buildings honored by the Washington State Chapter of AIA was this four-bedroom dwelling designed by Architects Bassetti & Morse. "Honest and original design . . . harmonious in quality," said the judges. Architects lauded for custom homes were Wendell H. Lovett, Seth M. Fulcher and Gene Zema (April, News). Judges: Thomas R. Adkison of Spokane, Walter Gordon of Portland and Victor Steinbrueck of Seattle.

Research House draws crowds in two locations in California

Architect **Edward Fickett** designed the big three-bedroom house shown at left, called Research House 1955 by its sponsors. Main sponsor: Architectural Publications, which publishes *Architectural Products* and the quarterly *Architectural Handbook*. Between 3,000 and 4,000 people have been turning up week ends to see the house in Sherwood Park subdivision in the San Fernando Valley. Another model of the same house has been drawing crowds for three months in Highland Weathermaker Village in West Covina.

The house has a floating butterfly roof and plenty of ceiling height: average 10'; along the glass north wall it gets up to 12'. The living-dining area in the 1,600 sq. ft. house is an expansive 26' x 28'. Core of the planning is use of inside baths, which allowed the designer unrestricted traffic patterns. Every room has access to the outdoors.

Builders of the research house were the **Wallace F. McDonald Co.** and **McDonald Bros. Construction Co.** (no relation); **George Erb** did the interior decorating; landscaping is by **Garrett Eckbo** and **Evans & Reeves nursery**.

Dayton company boosts sales with switch to prefab package

Huber Homes, a division of the **H. C. Huber Construction Co.** in Dayton, hit such a sales success with a brick veneer model that it shifted into prefabrication. Orders for their \$11,950 package were running 200 to 300 ahead of production in their Modern Manor subdivision (despite down payments of \$1,850). In 1953, the company produced 32 houses. Last year, it jumped to over 500. This year, its officers figure on at

"CAREY PRODUCTS HELP

to sell at prices that attract

... says Mr. James Brady, Sales Manager,
Liberty Realty Company, exclusive sales agent for Glencoe Homes,
builder of 450 unit development at Cincinnati, Ohio

● "Any builder that wants to protect his reputation for quality, yet keep his homes in a price range young families can afford, should take advantage of the Carey line," says Mr. Brady. "Even families looking for low-cost homes have a well-trained eye for quality in design; construction and materials. And Carey products are helping us make folks like what they see in our homes."

In the Carey line, you'll find products with features you can't get elsewhere. Features to save time and labor for your crews—to give your homes more eye appeal, more livability—to reduce the cost of upkeep, and provide greater safety for owners. And Carey service is something "special," too. Our big family of Carey dealers and wholesalers takes pride in its record for providing the materials and application/installation information you need—*on time!*

Build better for less, with Carey products. Mail the coupon for more information on products shown here, or see the Carey dealer now serving your area.

One of Glencoe Homes' many models. The roof is made the last word in beauty, "tops" for protection from fire and the elements, with Carey 210# Thickbutt shingles. A choice of new, modern heat-reflective pastel colors is offered, as well as conventional colors long popular for new home construction.

The Underside of soffits and the carport ceilings are finished with Careysote asbestos cement board. This material doesn't need paint, but takes it nicely for decorative purposes, is easily sawed and nailed, resists chipping and breakage. Careysote panels are furnished in 4'x8'x $\frac{1}{4}$ " size. Installation is fast and easy.



BUILD QUALITY HOMES

buyers" ...

A whisper-quiet Miami-Carey kitchen ventilating fan of smart, modern design adds to the livability and convenience of every Glencoe Home. "Even higher priced fans couldn't match Miami-Carey beauty and dependability" says Mr. Brady. "And the exclusive snap-in assembly of propeller and motor saved time for the electrician."

New duette lighted sliding door cabinet by Miami-Carey rings up a lot of sales for Glencoe Homes —right in the bathroom! Women can't resist its arresting beauty and spacious storage area. Matching accessories by Miami-Carey complete the picture. Other duette cabinet models to meet every design and budget need.

STAPLE TO 2c POSTCARD AND

MAIL TODAY

THE PHILIP CAREY MANUFACTURING COMPANY

LOCKLAND, CINCINNATI 15, OHIO

"Better Products for Better Building since 1873"

Fire-Chex Asbestos Plastic Shingles • Ceramo Siding • Fire-Guard Rock Wool Insulation • Careysote Board • Thickbutt Shingles • Waterproofing Materials • Elastite Joint • Miami-Carey Bathroom Cabinets, Accessories, Mirrors • Access Doors • Ventilating Fans

The Philip Carey Mfg. Company

Cincinnati 15, Ohio • Dep't HH-9

Gentlemen: Please send me more information on Carey products for better building, and the name and address of my nearest Carey distributor.

NAME _____

FIRM NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

WOW!

what a wonderful new idea



SOSS LEV-R LATCH

Eliminates Old-Fashioned Door Knobs . . .

MECHANICAL AND DESIGN PATENTS PENDING



REVOLUTIONARY NEW CONCEPT IN DOOR HARDWARE

Opens doors with the flick of a finger

- Available with or without locking mechanism for all interior doors



NEW MODERN DESIGN

Now! For the very first time, here's a door latch with flush, smooth streamlined surfaces that are in keeping with modern architecture. It has no knobs to damage walls . . . eliminating the need for door stops.

NEW EASE OF INSTALLATION

To install a Soss Lev-R-Latch all that is necessary is to bore 2 holes and insert 4 screws. This can be done so easily and so quickly that labor costs are cut as much as 1/3.

NEW LOW COST, NEW HIGH QUALITY

This Soss Lev-R-Latch has fewer parts than any other latch set. Consequently, many of the operations that are necessary to produce ordinary latch sets have been eliminated. This is why the high quality Soss Lev-R-Latch is so low in cost.



Soss Lev-R-Latch
is a fitting companion to the world-famous Soss Invisible Hinge, "The Hinge That Hides Itself."

The Soss Hinge has no protruding hinge butt. It's completely hidden from view when doors or lids are closed. Use it whenever you build or remodel.

SOSS Manufacturing Company
P.O. Box 38, Harper Station, Dept. 24
Detroit 13, Michigan

Please rush me complete information and prices on:

- The startling new Soss Lev-R-Latch
 The world-famous Soss Invisible Hinge

I am a dealer _____ jobber _____

NAME _____

FIRM NAME _____

ADDRESS _____

CITY _____ ZONE _____ STATE _____

HUBER HOMES BEST SELLER

least doubling that figure and hope to reach 1,500.

Huber Homes is run by three men still in their twenties—**Donald L.** and **Charles H. Huber**, sons of the late founder of the company, and **William G. Brennan**, a son-in-law. They got rolling a year ago when they discovered they had a dark horse in their three-bedroom model (see photo) and shifted to precutting to speed production. Their success may also lie partly in the fact that they make sure their land and location are choice and that they use a cost-saving system of sub-contracting for labor akin to **William Levitt's**.

Why does Huber Homes ask for (and get) such a high down payment? "We set our down payment at this figure to keep our clientele and the permanent character of the Modern Manor community on a high plane," says Sales Manager Brennan. "You would be surprised how many home buyers in good executive positions, with earnings justifying much more expensive homes, buy our houses."

'Build a better ranch house and grab the Cape Cod trade'

Realtor **Oliver Boyd** of Huntington, Long Island believes in getting his model homes lined up so that customers get a second chance to make up their minds. He figured recently that a Cape Cod model by **Valmont Homes** was drawing a lot of people who really wanted ranch types. "I thought we might be losing some sales to them," said Boyd. "Picture my situation. There's a front door and a back door in the Cape model. Here comes a man with his wife and child. There's a guy right behind him kicking him. What can he do? There's nothing he can do but go out the back door. So I want a ranch model built on the lot behind. Maybe he likes it; maybe he doesn't. If he doesn't, he'll go around to the front of the Cape again and go through for another look. I want something to hold him for an hour. Then maybe I'll pick up some of those sales I might have been losing to people who get shoved out of the first model too fast or who are really looking for a ranch style."

Cooperative land buying clears way for minority housing plan in Texas

Twelve builders in **Tyler, Tex.** have combined to give an object lesson in how to build minority houses. With Executive Director **Gordon Neilson** of the local association acting as pivot man, and the Tyler home builders sponsoring the project, the dozen builders formed a corporation, bought land that would not have been available under other circumstances and have done a job the Dallas FHA office calls "the best planned minority group in the Southwest." The first 100 houses were started last month and will sell in two price groups: from \$6,500 to \$8,500, and from \$10,500 up.

By making the project an association affair and by getting the whole town interested in it, the builders not only got fine land next to one of Tyler's two Negro colleges, but were able to persuade three local savings and loan associations to buy the first mortgages and to handle the bal-

continued on p. 66

of Pittsburgh Glass



Wall mirrors made from highly reflective Pittsburgh Polished Plate Glass, like the one installed in this dining room, add a "luxury" touch to any room. And that may be a living room, bedroom, entrance hall, or any other place in the home where "mirror magic" is required. And mirrors are magical. They can make a room look larger. A narrow room assumes greater width, for example. If you want to impress prospective buyers with the exceptional home values you are offering, make sure that you install several structural wall mirrors.



Today, people demand full-length door mirrors. And through Pittsburgh's consistent, large-scale advertising, they are aware of the fact that Pittsburgh Full-Length Door Mirrors are unsurpassed in quality, beauty and usefulness. So, we suggest you include one or two in every home you build or remodel. They can be put up in just a few minutes, and what a world of difference they make in a room! Pittsburgh door mirrors are *really* full-length—68" high. And they are available in five widths—16, 18, 20, 22, and 24 inches. This means that they fit more than 90% of all interior millwork doors.



Every nickel you spend on glass shows. And the results far outweigh the cost.

See Sweet's Builders Catalog for detailed information on Pittsburgh Plate Glass Company products.

PAINTS • GLASS • CHEMICALS • BRUSHES • PLASTICS • FIBER GLASS



PITTSBURGH PLATE GLASS COMPANY

IN CANADA: CANADIAN PITTSBURGH INDUSTRIES LIMITED



Eric Krieger, Architect • Photos: Rudolph Leppert

stone ... a distinguished material for a distinguished design

Is it not reasonable to provide a good architectural concept with a suitable medium of expression? STONE is such a medium. Because of its variety of texture and color and form, its complete flexibility, it adapts itself to any design concept, enhances each. A little STONE—a lot of distinction.

For additional information about STONE, its variety, characteristics, availability or uses, write the Building STONE Institute, 2115 Martindale Avenue, Indianapolis, Indiana.



ance. According to Neilson the project is a demonstration of the benefits from cooperative buying and planning. None of the 12 builders would have wanted to risk the time or money to pioneer minority houses alone. The cooperative land buying has been so successful with this project that other builders in Tyler have formed a group to buy and develop land for their regular production of houses.

Mel Glick of St. Louis holds model home show in a tent

Builder **Mel Glick** of St. Louis is a Davy Crockett type who enjoys discovering new subdivisions and doing business from a tent. Glick's big find was the little German community of Olivette, a St. Louis suburb adjoining the city's most exclusive

Hutchinson residential area, that had been overlooked by other builders for years. Glick found a sign in the scrub that had been there since 1929, offering 60 acres for sale. The place had a population of 1,700 and few sewers. Other builders thought he was crazy when he bought it, but Glick forged ahead with plans for 2,000 houses—he bought more land—has already brought in more families than lived there before and is now at work on a shopping center.

When the teamsters' strike hit St. Louis, Glick found that he was not going to be able to get any model houses up for the opening of another subdivision. The advertising was out and people expected something. So Glick put up a circus tent (he tried to get an elephant, but failed) and stocked it with all the features of the homes he planned to build. Thousands came and several bought houses.

Last winter Glick purchased a golf course, plans to build on it soon on 1/3-acre lots. In the meantime, he has been using it as a golf course.

Indianapolis builders erect free recreation building for kids

Close to a dozen firms and organizations teamed up to do a one-day construction job, free of charge, on a community recreation building in Indianapolis. Spearheaded by the **Marion County Residential Builders Assn.** (David Augustus, president) and the **Benevolent Assn. of Sheriff's Employees** (which purchased the seven-acre site), the project will benefit an estimated 2,100 children when other buildings are completed. The first building is 1,300 sq. ft., uses Lu-Re-Co panels (manufactured by **Burnet-Binford Lumber Co.**) and the **Small Homes Council's** new 2 on 12 roof truss (March issue). Other donations: lumber from **Frost Lumber Co.**, labor from **John Bauer** of the **ABC Construction Co.** and design from **Edward D. James** of the Indianapolis AIA.

Family room and two baths featured in new home by Anshen & Allen

Three new models for **Mackay Homes'** Oakland subdivision on the San Francisco Peninsula have been turned out by Architects **Anshen & Allen** (June '54 issue), all with three bedrooms and two baths. Much glass is used (see photo, p. 70), but privacy is maintained by use of fenced patios

continued on p. 79

Something's in the AIR about selling tomorrow's houses!

No doubt about it! More and more people consider air conditioning essential in the house they buy.

That's good! Because it gives you home builders a tremendous sales tool!

Servel

the name to watch for great advances in

AIR CONDITIONING ✓ REFRIGERATION

As more and more builders have discovered . . .

Central air conditioning is not an "extra-cost" item, but rather it is an additional profit maker in every house you sell.

Here's why:

- An air-conditioned home just naturally attracts *more* prospects because it offers a new quality of living not in their present homes.
- These prospects *want* the advantages of air-conditioned living. That means air-conditioned houses sell faster.
- And there are *extra profits* for you on the central air-conditioning equipment.

Consider GAS air conditioning . . .

Only the Servel gas air conditioner offers these sales advantages for you, the builder:

Customer preference. The tremendous continuing growth of the natural and bottled gas industries clearly indicates that the home owner prefers gas for *cooling* as well as heating.

Low cost of ownership. Servel's gas-fired units are inexpensive to install. Only Servel offers the simple and exclusive absorption operating principle, with no moving parts. This cuts service calls and maintenance costs to a minimum, resulting in low-cost ownership.

Co-operation of utilities. You can expect close co-operation from the gas suppliers in your area in the promotion of air-conditioned homes.

Time-tested equipment. You can offer Servel gas air conditioning in the homes you sell with confidence. Five-year factory warranty is backed by Servel, producers of package residential air conditioners since 1939.

When selecting air conditioning for the homes you build . . .

investigate Servel All-Year® air conditioners. They offer all seven important comfort benefits to help you sell your homes faster.

1. Cooling in summer.
2. Heating in winter.
3. Removal of excess moisture in summer air.
4. Humidification of winter air.*
5. Cleaning of air.
6. Circulation of air.
7. Ventilation with outside air.

*Can be added by installer on 2-ton model.

What's more—the exclusive Servel absorption-type system operates with no moving parts. Your customers benefit from lower cost ownership.

There are important new developments at Servel . . .

And they promise a brighter, more profitable future for you.

New Servel products are being developed at an increased rate in Servel's newly expanded research facility.

New compact 3-ton unit. Servel is now field-testing a new full-capacity (ASRE Standards) unit requiring only slightly more floor space than the average 2-ton model. Weight is reduced over 50%. Major components cut from 6 to 2. Simpler installation, simpler controls, easy service access will save time and money for both you and your customers.

New Servel advertising will keep the Servel name in your prospect's mind. It pre-sells your prospects on the desirability of homes with Servel air conditioning.

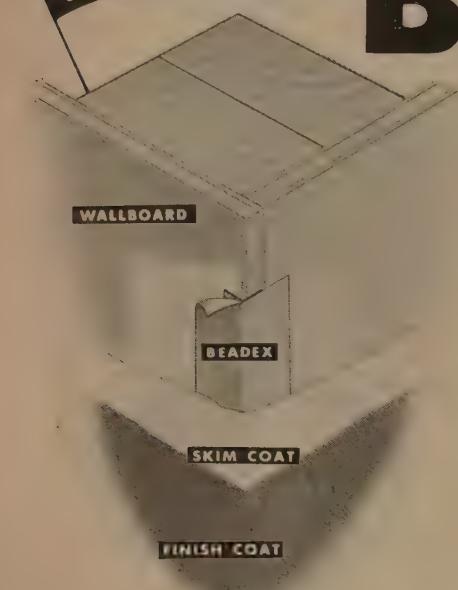
With this dynamic new Servel program you get the finest air-conditioning equipment to give you faster home sales, bigger profits.

Put the proven sales magic of Servel All-Year air conditioning in the homes you build. Send for complete information today. Write: SERVEL, INC., Dept. HH-95, Evansville 20, Indiana.

The Corrective Corner Reinforcement For Drywall

Acceptable for Outside Corners

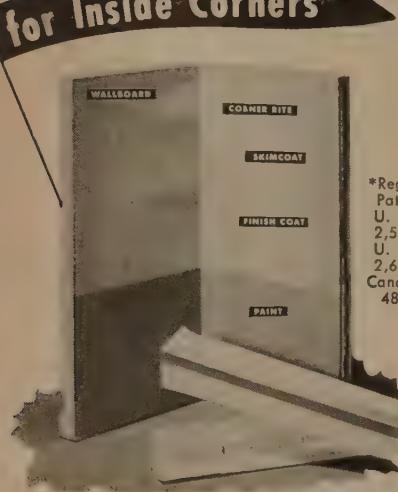
BEADEX*



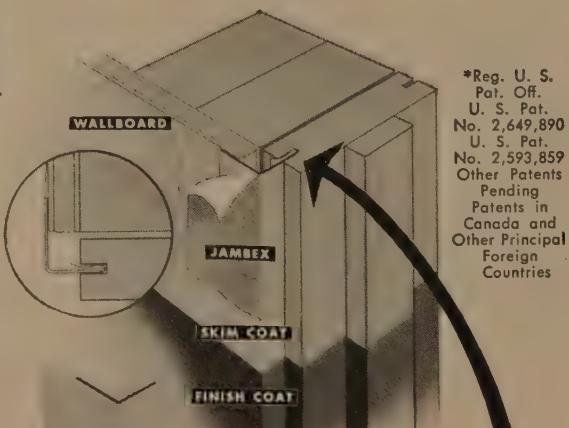
BEADEX solves the problem of crookedness through the scientific combination of tape, metal and joint cement. Metal protects the corner and maintains the permanent straightness. The joint tape is bonded to outer surface of metal, serving as a safeguard against occurrence of raw metal edge cracklines. Tape extends beyond edges of metal, assuring positive adherence to both sides of corner. Joint cement is applied in accordance with old, accepted methods for straightening corners and is also the adhesive in which BEADEX is imbedded. The BEADEX Guarantee frees builders of nuisance complaints and places responsibility squarely on the manufacturer!

JambeX*

**The Finest Method Yet
Devised For Making Straight
Wall Surfaces Around Openings**



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Pat. Off.,
U. S. Pat.
2,593,859,
U. S. Pat.
2,649,890,
Canada Pat.
487,518.



The KERF
is the KEY
to the JambeX
Method

The JambeX method with the Kerf as the guide assures a perfect margin around openings, bonds joint and wall into a rigid, shock-proof unit, with clean and attractive design. JambeX straightens surfaces around openings, effects labor savings in ease of application and reduces painting costs. Jamb set is narrower and less expensive, being same width as stud.

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[BEADEX OF CANADA LTD., Box 317, Kingston, Ont.]

Please send me your file material on JambeX Beadex [for inside corners] Beadex [for outside corners]

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ARCHITECTURAL
File 11a
Be



NEW MACKAY HOMES MODEL

on the indoor-outdoor side of the house. A family room faces the patio, with bedrooms and baths placed at opposite ends of the long side of the house. The living room is in rear, backed up against a garage.

F&S Construction gives up fight for small-lot zoning in Illinois

The big F&S Construction Co. ran into such opposition to a farmland subdivision outside Chicago (News, April issue) that it settled for minimum 20,000 sq. ft. lots for at least part of the proposed project. F&S had originally requested that the 20,000 sq. ft. requirement be cut to 7,500 sq. ft. on 580 acres in rural Schaumburg township. Farmers objected. F&S agreed to the 20,000 sq. ft. requirement for at least 267 homes.

Iowa's biggest builder switches from four bedrooms to three

Builder Robert Stout of Des Moines finally found time while putting up more houses in Iowa than any other builder (a total of 200 starts last year) to switch from a four-bedroom to a three-bedroom model. He sold \$2-million-worth of four-bedroom houses in his Highland Hills development last year at \$9,950 apiece—five times the sales record of any other single model in Des Moines. His new three-bedroom costs more (\$11,950) and is better looking. Stout took the pitch out of the roof which made four bedrooms possible and settled for the three bedrooms and more fenced terrace space.

Milwaukee builder charges 25¢ admission, draws crowd of 100

In Milwaukee, Builder Henry Paul tried an experiment, charged people 25¢ to go through an unfurnished \$35,000 colonial model home. One Sunday he got 100 takers. Paul considered that fine in view of the competing Braves-Dodgers baseball game. He planned to try it again on another home, said he wanted to create curiosity and weed out the basically uninterested curious. He said he will give the money to the Sherman Park Evangelical Lutheran Church. None of the first 100 pay-to-see folk took up his offer to refund the admission price to dissatisfied lookers.

Use of redwood rises in Midwest as something new and different

The spread of redwood is typified in Missouri, which has moved from 14th to sixth largest user of the material in the US since 1948. Why? Lumberman E. O. Beyers of St. Louis, who sells 2.5 million bd. ft. of redwood a year, says it is because the public wants something new and different. Builders in his area use it with a vertical V-joint or as level siding.

NEWS continued on p. 74

2-ACTION WASHER HOMES FASTER!

Now . . . 2 separate washing actions . . . another big sales advantage you can add to the homes you build!

It's no secret . . . the lady of the house wants all the modern conveniences in her new home. And, when you give her *complete freedom* from washday drudgery with Whirlpool, you'll close the deal faster and at more profit.

The 1956 Whirlpool Imperial is a new kind of washer. It has *two separate washing actions* . . . one for washing regular clothes and the other for washing even the sheerest fabrics. Now, for the first time, *hand washing* of delicate materials is eliminated forever!

Both washer and dryer combine Whirlpool's famous quality with new, brilliant beauty that adds lasting charm to any home. See your nearest Whirlpool distributor. Let him show you the 2 separate washing actions . . . money-saving Suds-Miser and 3-water level selector . . . 7 Rinses . . . controlled air circulation of tempered heat . . . 4 faster drying temperatures . . . and many other features most wanted by most women.

WHIRLPOOL BUILDER PLAN SAVES YOU MONEY

The Whirlpool builder purchasing plan makes it easy and very economical to put the Whirlpool sales appeal in all your new homes. And, these home laundry appliances can be included in the *package mortgage*. So . . . add the prestige of Whirlpool, the greatest name in home laundering, to your new homes.

BUILDER DIVISION
WHIRLPOOL CORPORATION, St. Joseph, Mich.

Clyde, Ohio • Marion, Ohio • LaPorte, Indiana.

IN CANADA: John Inglis Co., Limited, Toronto, Ontario.

THE WORLD'S LARGEST MANUFACTURER OF WASHERS, DRYERS and IRONERS.



In the "Delicate Fabrics" cycle, washing time is from one to four minutes and automatically, washing action and damp-dry spin slow down by one-third to a hand-washing gentleness.



The regular cycle has washing time up to 14 minutes with normal speed and action for washing and damp-drying all regular clothes thoroughly yet gently.

MORE THAN EVER . . . IT'S EASIER TO SELL WHIRLPOOL-EQUIPPED HOMES

OPINIONS

These intellects shed the following light on matters of moment to housing:

Moffett Studio



James Downs Jr., president, Real Estate Research Corp., of Chicago:

"Consumers never know what interest rates they're paying and couldn't care less. It's how much a month on the installment plan that dictates present-day buying."



Builder L. U. Jones, former president, Building Contractors Assn. of California:

"Hundreds of contractors in southern California switched to the new trend to contemporary design . . . in 1954 . . . partially or completely and thousands of houses have been built in this somewhat revolutionary manner. Most of these have outsold their older style competitors and even the builders who decided not to go radical, have added, one by one, certain features of the new trend."



Julius Stulman, president of Stulman-Emrick Lumber Co., Brooklyn:

"Distribution methods of lumber and building materials are antiquated and require revolutionary changes. Precutting, manufacturing panelized sections and prefabricating alone will not bring about the full advantages [of] proper distribution. If effective steps . . . are taken, the cost of today's house could be reduced in excess of 50%."

Elliott & Fry, Ltd.



G. Arnold Coombe, past president of the British Royal Institution of Chartered Surveyors:

"During the past 15 years, British housing has been affected by the tendency of the vast majority of the population to regard prewar, or earlier, rental values as unalterable and a very high standard of housing as their right, apart altogether from the economic cost of the commodity, or what the nation can afford. . . . The average man does not see the inexorable link in his desire for better housing and his willingness and ability to pay for it. The Rent Acts, by masking for far too long this essential relationship, have done almost as much harm to the tenants as a body as to the landlords."

ABOVE ALL...

Your customers want comfort!

ASSURE YEAR 'ROUND HOME COMFORT WITH WHITE-RODGERS CONTROLS

Today's home buyers are better educated than ever concerning the essential *comfort factors* in your new homes. They know that a house can be no more comfortable than its heating and air conditioning controls keep it.

Be sure the homes you design and build are equipped with "Comfort Insurance" . . . sensitive and decorative White-Rodgers Controls for heating and air conditioning.

Want to look at specifications and illustrations? We'll be glad to send a complete catalog.



FOR OIL or GAS



WARM AIR... HOT WATER or STEAM



WHITE-RODGERS *Controls*

FOR HEATING • REFRIGERATION
AIR CONDITIONING

ST. LOUIS 6, MO.
TORONTO 8, ONTARIO

All eyes are on

WESLOCK'S New #598 ENTRY HANDLE LOCKSET

Smartly modern in its simplicity of design, the New Weslock #598 Entry Handle Lockset adds distinctive beauty to any entry door.

- ★ Solid brass, bronze or aluminum trim
- ★ Completely reversible
- ★ Self-adjusting for doors from 1 3/4" to 2 1/8"
- ★ Simply installed — like all Weslocks
- ★ For the first time — an Entry Handle Lockset priced to meet the modest budget
- ★ Standard Weslock 5-pin tumbler. Available in keying combinations with any Weslock

* SPECIAL INTRODUCTORY OFFER:

Contact your jobber
or write for details.

Keep your eye on Weslock



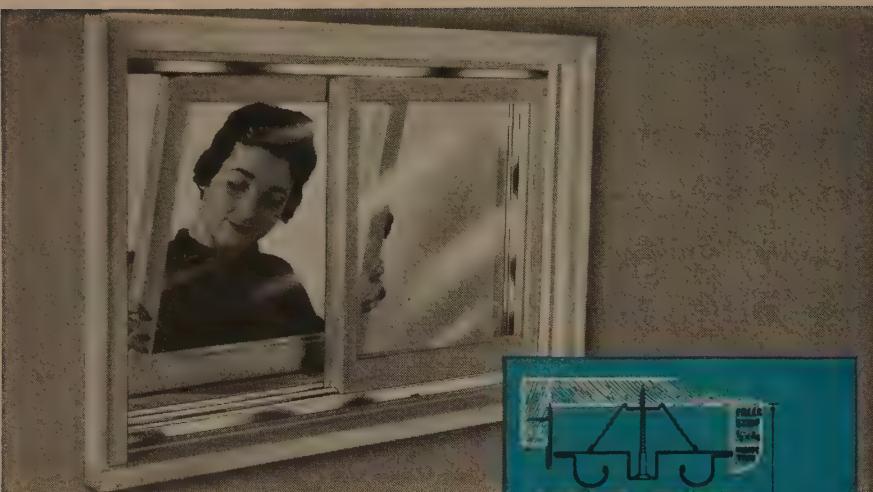
INSIDE
VIEW

WESTERN LOCK MFG. CO.

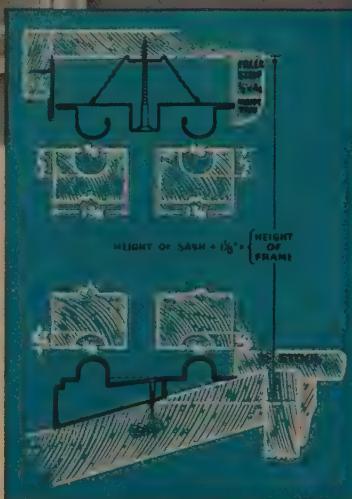
Manufacturers of Weslock Residential Locksets and Building Hardware

GENERAL OFFICES: 211 NORTH MADISON AVENUE, LOS ANGELES 4, CALIFORNIA • FACTORY: HUNTINGTON PARK, CALIFORNIA
SEE US AT BOOTH 26-27-28 AT THE NATIONAL BUILDERS HARDWARE EXPOSITION, ST. LOUIS

EVENTS



ALL-Glide EQUIPMENT for removable horizontal sliding windows



Patent Applied for

- Sash glide easily on round-top tracks
- Flexible bronze pressure strip at head has two fold purpose 1. It is good weatherstrip 2. It permits easy sash removal
- Extruded sill with adequate weep holes and drip pan, provides quick drainage with no danger of sill rot
- This equipment permits the use of stock windows which eliminates the necessity of having special mill work

Ideal for shoulder high windows . . . in bathrooms, kitchens, bedrooms. Horizontal sliding windows equipped with No. 890 ALL-Glide are E-X-P-A-N-S-I-B-L-E. Use them singly or in multiples.

ALLWEATHER Balance Strip with FLOCKED COIL SPRINGS

ALLWEATHER Balance Strips No. 490, 90, 810Z, 812Z and 814Z are furnished with FLOCKED COIL SPRINGS.

Adjustability is built in No. 490 and 90. Balance tube with semi-cantilever action insures weatherstrip contact in all kinds of weather. The base section is always in close contact with jamb insuring stability. FLOCKED COIL SPRINGS are concealed by a functional part of the strip itself.

810Z, 812Z and 814Z are a combination of weatherstrip, flocked springs and spring covers making effective, economical sash balance and weatherstrip combinations.

Laboratory tests show that ALLWEATHER Balance Strip efficiency in reducing air infiltration is far in excess of American Wood Institute Specification Standards.

Tests made by the University of Minnesota Institute of Technology Testing laboratory in cooperation with Weatherstrip Research Institute, show that double-hung wood windows, when metal weatherstripped show an infiltration ratio 6 TIMES LESS than non-weatherstripped windows.



ALLMETAL Weatherstrip Company SINCE 1915

Name "ALLMETAL" Reg. U. S. Patent Office

2249 North Knox Avenue

Chicago 39, Illinois

National Home Week, Sept. 10-18, programs and exhibits in more than 150 cities.

American Society of Planning Officials, annual conference, **Sept. 25-29**, Sheraton-Mount Royal Hotel, Montreal.

Midwest Conference of Building Officials, annual conference, **Sept. 26-28**, Hotel Fontenelle, Omaha.

NAHB, fall directors meeting, **Sept. 29-Oct. 4**, Washington, D.C.

Society of Residential Appraisers, Great Lakes regional conference, **Sept. 29-30**, Carter Hotel, Cleveland.

Producers' Council, Inc., 34th annual fall meeting, **Oct. 2-5**, Hotel Statler, Detroit.

Pacific Coast Building Officials Conference, 33rd annual business meeting, **Oct. 3-7**, Portland, Ore.

National Retail Lumber Dealers Association, annual exposition, **Oct. 11-16**, Cleveland Auditorium, Cleveland.

National Savings & Loan League, fall management conference, **Oct. 16-20**, Olympic Hotel, Seattle.

National Association of Housing & Redevelopment Officials, 22nd annual conference, **Oct. 17-20**, Statler Hotel, Cleveland.

American Standards Association, 37th annual meeting, **Oct. 24-26**, Sheraton Park Hotel, Washington, D.C., including National Conference on Standards in conjunction with the National Bureau of Standards.

New England Council of Home Builders, annual convention, **Oct. 28-29**, Sheraton Biltmore Hotel, Providence.

Prefabricated Home Manufacturers' Institute, fall meeting, **Oct. 30-Nov. 2**, Lookout Mountain Hotel, Lookout Mountain, Tenn.

Mortgage Bankers Association, 42nd annual convention, **Oct. 31-Nov. 3**, Statler and Biltmore Hotels, Los Angeles.

National Electrical Contractors Association, 54th anniversary convention, **Oct. 31-Nov. 2**, Waldorf-Astoria Hotel, New York, with the first National Electrical Exposition.

National Association of Real Estate Boards, national convention, **Nov. 4-11**, Commodore Hotel, New York.

United States Savings & Loan League, annual convention, **Nov. 7-11**, Miami Beach.

National Lumber Manufacturers Association, annual board of directors meeting, **Nov. 14-16**, Shoreham Hotel, Washington, D.C.

Texas Association of Home Builders, annual convention, combined with the Houston Home Show, **Nov. 18-27**, Shamrock Hotel, Houston.

AIA Regional Conferences: Northwest, **Sept. 9-11**, Glacier Park; Sierra Nevada, **Oct. 6-8**, Santa Barbara; Gulf States, **Oct. 6-8**, New Orleans; Central States, **Oct. 13-15**, St. Louis; New York, **Oct. 13-15**, Albany; Texas, **Nov. 2-4**, Houston.



Every Room More Attractive, Every House More Salable... when you build with AMWELD®

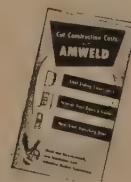
Designed to decorator standards AMWELD steel doors and frames compliment contemporary and traditional decor. Whether the home you are building is large or small, expensive or modest, AMWELD doors and frames will enhance its appearance—and sales appeal. Installation is quick, easy and inexpensive—and AMWELD doors retain their handsome appearance year in, year out without maintenance. Where low cost, attractive appearance and durability are important be sure to specify AMWELD Steel Doors and Frames, and Sliding Closet Units.

THE AMERICAN WELDING & MANUFACTURING CO.
330 DIETZ ROAD • WARREN, OHIO



"Amweld is a Plus Feature"

"Equipped with steel doors and frames, is one of our strongest sales arguments", says a Southern contractor and developer. "Amweld is something we are proud to talk about".



Send for "Cut Construction Costs" Folder—Complete information about Amweld Building Products—fully illustrated.



NO DRILLING—MORTISING OR FITTING



With Amweld Inter-Lok Frames and Flush Steel Doors one man can finish a door opening in 10 minutes. Hammer and screwdriver are only tools needed.

NO STICKING, WARPING OR SPLITTING



Sturdy steel construction guarantees doors that will last for years—never any maintenance required.

SOUND-DEADENED FOR QUIET CLOSING



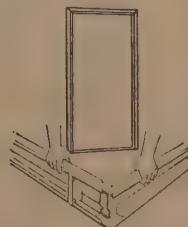
Interior of Amweld Flush Doors are coated with a special fire, heat, mildew, and vermin resistant, sound-deadening material which gives them the feel and sound of a solid door.

EASY TO HANDLE ON JOB



Amweld "KD" Sliding Closets come knocked down. All hardware furnished—shipped complete in single carton.

NEW 1 3/4" INTERIOR FRAME



Easy to install Inter-Lok frames now available for both 1 3/8" and 1 3/4" flush doors. All standard sizes.

PRECISION

QUALITY PLUS
SALES FEATURES

DESIGNED FOR TODAY'S HOMES

—engineered for safety and ease of operation. Thousands of home builders across the nation have installed this quality salesmaker in their homes for quicker sales and more profits. Seven exclusive features plus Precision's big five-year guarantee have made Precision America's No. 1 Stairway. Stocked by 130 leading jobbers in the U. S. A. and Canada.

LISTED IN SWEET'S

SEVEN EXCLUSIVE FEATURES

- 1—HYDRAULIC SAFETY CHECKS—prevents slamming of stairway on opening and closing; shut stairway door tightly and ease stairway into open or shut position quietly and safely.
 - 2—ACTUATED BY COUNTERWEIGHTS—cleverly engineered; they close the stairway tightly every time. No springs to weaken; no adjustments necessary.
 - 3—LIFE-TIME ROLLER BEARINGS—make operation noiseless and practically effortless.
 - 4—RUGGED AND STRONG—all parts are secured by bolts and screws. Superior design assures long life and dependable service under constant use.
 - 5—INSULATED DOOR PANEL—saves fuel in winter by preventing loss of heat to the attic and keeps out summer heat from the room below.
 - 6—FULL WIDTH SAFETY TREADS—protect each step, add to appearance, and assure a safe footing.
 - 7—FITS ANY CEILING HEIGHT—graduations on runners facilitate cutting off for different ceiling heights and insure a saving on both installation time and cost.
- TWO STANDARD SIZES:** 8'9" and 9'9". For ceiling heights 7'0" to 8'9", use 8'9". For ceiling heights 8'9" to 9'9", use 9'9". Figure from finished floor to finished ceiling—not floor to floor. Frame fits 26" x 54" opening in ceiling; also 30" x 54" (special) at extra cost.



SIMPLEX

QUALITY PLUS
LOW COST



SELL MORE HOMES! Assure your prospects of adequate storage space at a cost low enough to satisfy today's budget-conscious home buyers. The Simplex "Balanced Action" Folding Stairway can help your homes move fast for more profits! Its economy . . . ease of operation . . . and durability make Simplex a No. 1 PROFIT-MAKER for home builders.

New! BALANCED SPRING ACTION for effortless operation.

SIMPLE AND EASY TO OPERATE—no adjustments necessary.

RUGGED AND STRONG—Manufactured of highest quality materials—No. 1 kiln dried lumber throughout. All parts secured by bolts and screws—no nails.

TWO STANDARD SIZES—8'3" and 9'9". For ceiling heights 7'0" to 8'3", use 8'3". For ceiling heights 8'3" to 9'9", use 9'9". Frame made to fit 26" x 54" opening in ceiling.

SHIPPED IN ONE PACKAGE—shipping weight, 8'3", 52 pounds; 9'9", 56 pounds.

MANUFACTURED IN PRECISION'S MODERN PLANT.

MANUFACTURED BY

PRECISION PARTS CORP.

400-HH North First Street

Nashville 7, Tennessee

LETTERS

STANDARDIZATION

Sirs:

The Round Table recommendations (June issue) hold more than ordinary interest for the sash and door jobbers who have a unique position in the wholesale warehouse distribution of windows and doors to the nation's lumber dealers. Their operations differ from the wholesalers' whose primary function is bulk handling of commodity lines.

. . . Our jobbers make available locally and in small quantities the various sizes and designs of windows and doors to be used on house jobs.

In any adjustment of sizes brought about by standardization the jobber would be the key factor in promoting the program to manufacturer and dealer.

We would like to suggest that future deliberations on this subject include representation of the jobber viewpoint.

CARL W. NAGLE, *secretary*
Northern Sash & Door Jobbers Assn.
Chicago, Ill.

Sirs:

A few weeks before your article on window sizes appeared (June issue), we introduced a new line of window units which almost exactly match the sizes you suggested. We have found your article a powerful selling tool.

CHARLES B. RUFF, *manager*
Sales promotion
Lumber Dealers Inc.
Denver, Colo.

Sirs:

The Aluminum Company of America does not produce windows, but we are, of course, very much interested in progress made by the window industry inasmuch as we are a major supplier to the many manufacturers of aluminum windows. In my opinion your Round Table on coordination of window sizes was most constructive.

L. M. DUNN, *head*
Architectural Section
Sales Development Div.
Aluminum Company of America

Sirs:

We would like it if the garage door size could be standardized. Since there are so many kinds and types of buildings, it would probably be a long time before we could discontinue some of the "odd" sizes, but it still would be an ultimate goal to work toward.

It would seem that 7' could well be the standard height, though there is something to be said for the 6'6" opening. We agree that standard width for a single opening should be 9', but would rather believe that 16' is sufficient for double car garages.

WILLIAM L. BLACK, *sales manager*
Frantz Manufacturing Co.
Sterling, Ill.

continued on p. 88



Heating
Unit

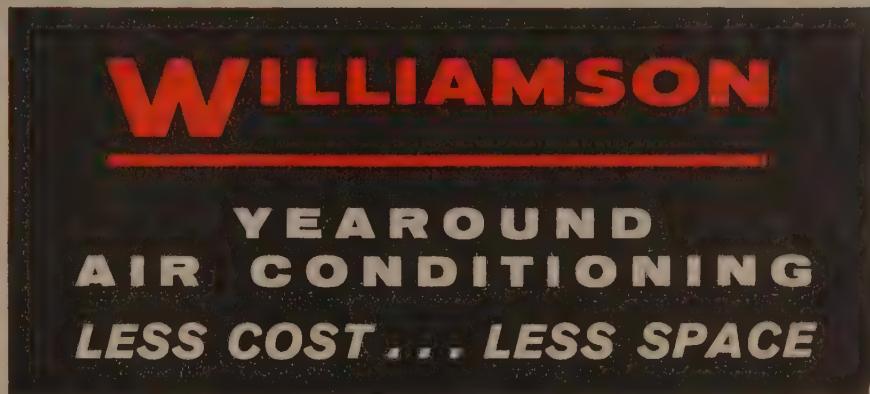
Cooling
Unit

**ASSEMBLED
WARM AIR FURNACES**

- Units occupying less than 2 feet square
- Hi-Boy, Lo-Boy, Counter-Flow and Horizontal Units
- Pre-wired and pre-assembled . . . 10-minute installation
- 20 gas models, 12 oil models . . . 60,000 to 145,000 BTU

WILLIAMSON Yearound AIR CONDITIONING fits even the smallest basementless house. Simply install ASSEMBLED Counter-Flow Furnace plus exclusive Counter-Flow AIRrefrigeration into the perimeter heating system. Use only 2 FEET SQUARE of floor space. No need to install all the cooling portion at once . . . just coil enclosure and conduit line . . . then complete system anytime. For basement homes, install WILLIAMSON Lo-Boy or Hi-Boy with duct-type cooling. Famous WILLIAMSON symbol on all units gives extra merchandising value. Get the edge on competition with compact WILLIAMSON heating and cooling units.

all you need for new profits!



WATERLESS COOLING
featuring Exclusive Counter-Flow AIRrefrigeration

Outside
Compressor
Unit



plus

a complete line of 2, 3 and 5 ton WATERLESS and WATER-COOLED Units . . . and DUCT, PIPE & FITTINGS for ANY System.

- No additional floor space required
- Eliminates the use of water, water tower and pump
- Costly water and sewer connections avoided
- Easily installed . . . (90% factory pre-wired)
- Condensing unit outdoors . . . saves space, eliminates indoor compressor sound
- Installation of coil enclosure makes possible completion of system any time in future
- Operating costs equal to other systems

THE WILLIAMSON HEATER CO., 3577 MADISON ROAD, CINCINNATI 9, OHIO
gentlemen: Rush me details on the complete WILLIAMSON line of heating and cooling units.

name.....title.....

firm.....

address.....

city.....zone.....state.....

a compliment
to good design ...



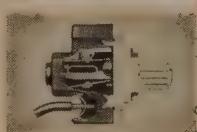
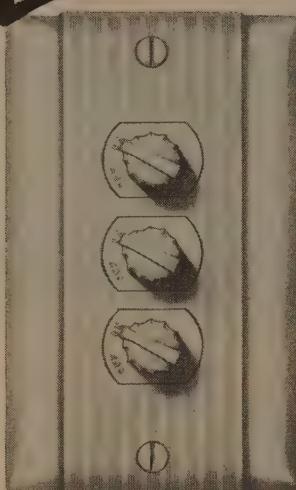
the NEW
ROTO-GLO®
quiet switch

because switches should be seen
... not HEARD!

ROTO-GLO announces an all-time high in switch performance and appearance by offering you two big design advantages to compliment your plans. For now ROTO-GLO combines the most technically modern roto switch mechanism with handsome interior styling.

Everyone likes the whisper quiet operation . . . the luminous knobs that glow in the dark . . . and the gentle one-quarter turn of the knob that turns lights off and on (like a modern radio or TV switch).

What's more, you can specify ROTO-GLO with complete confidence in the long-wearing quality construction. The all-enclosed plastic body and non-oxidizing silver alloy contacts assure years of trouble-free operation. And ROTO-GLO switches can be used to full current rating on incandescent and fluorescent loads.



Available in P&S Despard Type (15A, 120V AC, 277V AC) for combination wiring, and in conventional strap type (15A, 120V AC).

Get the complete ROTO-GLO story. Write today for a free copy of "Modern Electrical Living", a comprehensive 24 page booklet on wiring devices, to Dept. HH-2.

P&S PASS & SEYMOUR, INC.

Syracuse 9, N.Y. • 71 Murray St., New York 7, N.Y. • 1229 W. Washington Blvd., Chicago 7, Ill.

LETTERS *continued from p. 86*

Sirs:

The "Proposed new standards for the terminology of measurement" (July issue) is a very clear presentation of a simple idea and I am happy that you devoted several pages to it, even though you could have crowded it all onto one page.

The simplest, most basic ideas are often lost among other things.

L. MORGAN YOST
AIA Home Building Industry Committee

DECIBEL LIMIT

Sirs:

One of your conclusions states in part "FHA's 40 decibel limit is obviously too stiff" (*Air-conditioned Village*, March issue). Actually, our current guide with regard to sound intensity is 45 and 50 decibels as may be noted in Section 8 of Mechanical Engineering Bulletin No. ME-12. Field experience to date has not tended to indicate that this particular requirement is too severe.

NEIL A. CONNOR, director
Architectural Standards Div.
Federal Housing Administration
Washington, D.C.

REHABILITATION

Sirs:

You will be pleased to know that since 1952 we have rehabilitated 18 blocks with a limited staff of two inspectors. So far as we know, we are the first city to repair streets, curbs, gutters and sidewalks in rehabilitation areas at no cost to the abutting property owners.

You will also be pleased to know that we have subscribed to *HOUSE & HOME* since 1953. We feel it is the best source of information on housing and rehabilitation in particular that is available.

HOUSE & HOME is an excellent influence in preventing tomorrow's slums. This is because you show the builder how to build better, to avoid street grid patterns, to avoid repetition, to use larger lots and to build a quality house beyond the minimum FHA requirements.

GORDON E. MARTIN
Housing supervisor
City of Portland, Me.

KEY TO SUBURBIA

Sirs:

. . . I read with particular interest your discussion of "The growing battle for better planning, zoning" (April issue, *News*) . . . down-to-earth thinking about the automobile and its relationship to land values might be the key to better suburban developments . . .

MARCELLA BOTHWELL
Springfield (Mo.) Advertiser

PLEASE!

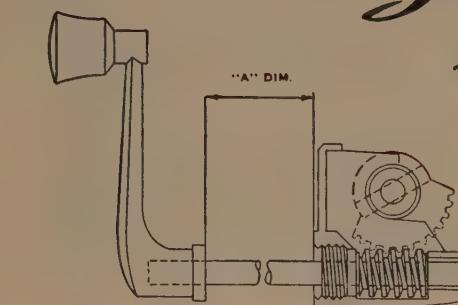
Sirs:

Your magazine is too darned effective, and it's costing us money. You featured our Nylon

continued on p. 90

STRIP - PROOF, WEAR - PROOF OPERATION

*influences Architect
in choosing Ualco!*



AWNING WINDOWS



Building: Office, Memphis Stone & Gravel Company
Memphis, Tenn.

Architect: Robert Day Smith

Designing with a free hand for his brother, Mr. C. D. Smith, Architect Robert Day Smith chose the Ualco Aluminum Awning Window in preference to all others, for its strip-proof, wear-proof operation.

In the Ualco Awning, power is transmitted from an exclusive Strip-proof Operator (no separate locking device) through a torsion rod, encased in four pillow block oilite bearings, to the roller operating linkage with movable bars and lugs that engage weatherseal hooks.

Thus possibility of strain is eliminated. The Ualco Awning requires no adjustments; there's no wear, it's maintenance-free!

OTHER FEATURES: Extra heavy extruded aluminum sections have tremendous strength. Completely weatherstripped with Koroseal. Vents open up to 90 degrees . . . or lower vent only opens slightly for night and inclement weather ventilation while upper vents remain closed and locked. Integral fin takes brick fin and fin trim. Jiffy Quick Sill Clips slide in channel from each side.

SOUTHERN SASH SALES & SUPPLY CO., INC.
SHEFFIELD, ALA.

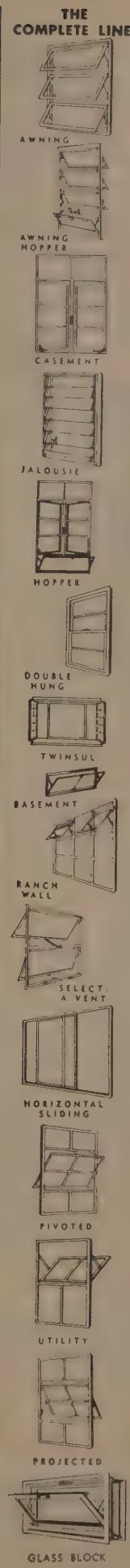
WAREHOUSES & SALES OFFICES: Canton, Ohio; Elizabeth, N. J.; Florence, Ala.; Hialeah, Fla.; Montgomery, Ala.; Van Nuys, Calif.; Greensboro, N. C.; Ruston, La.; Kansas City, Mo.; Washington, D. C.

ENGINEERING PLANNING SERVICE to assist architects, engineers and contractors in making "take-offs" and solving window problems.

See our catalog in Sweet's for complete information
Architectural File 16A or Light Construction File 5A
UN

SOUTHERN SASH'S Ualco World's Largest—In More Buildings
Than Any Other Aluminum Window

Ualco Aluminum Windows are unconditionally guaranteed against defective materials and workmanship.



Sell this EXTRA feature to sell your homes!



a **COMPLETE Majestic**
home disposal system
that works... like Magic!

GETS RID OF GARBAGE AND TRASH!

"Parade of Homes" enthusiasts are looking for the greatest development in modern disposal equipment—the Majestic Gas-Fired Incinerator. Here's the appliance that disposes of all trash and garbage indoors, and has added more safety, health, and convenience to modern living than any other since the hot water heater.

Make a place in the utility room or basement of your homes for this Incinerator. You'll find that it catches the eye and interest of your prospects, again indicating the value of *extra features* in closing the sale. Be sure it's a Majestic—quality by a company with well over a quarter-century of experience in the home incineration field.

DIMENSIONS—20" wide, 24" deep, 36½" high.

CAPACITY—Two bushels.

FLUE—Requires 7" smoke pipe outlet. May be used with any chimney flue 6" or larger.

BURNER—Monoport, 18,000 BTU rating.

PILOT—Automatic, 1500 BTU rating, dehydrates.

FINISH—Gleaming white enamel over rust-resisting Polykote base.

SAFETY—Approved by American Gas Association.

See your Majestic Dealer
or write for free folder.



The **Majestic** Co., Inc.
413-A ERIE ST., HUNTINGTON, INDIANA



Majestic® **INCINERATOR**

Manufacturers of Incinerators
and quality building products

— Since 1907

Gets rid of
all three... like Magic!



GARBAGE

BURNABLE
TRASH NEWSPAPERS
AND MAGAZINES

LETTERS *continued from p. 88*

shower head (May, *New Products*), and we've been busy with inquiries ever since. The problem is that our price changed from \$2.95 to \$3.95 before this issue came out and we have felt responsible for filling orders at the quoted price, even at a loss. Would you ask your readers to please let us off the hook?

CHARLES E. MONTGOMERY
Sales manager
Nylon-Maid, Inc.
Glendora, Calif.

SEWAGE QUESTIONS ANSWERED

Sirs:

Thank you for arranging to get us 50 copies of the article on septic tanks appearing in *HOUSE & HOME* (June issue).

A number of small business firms have requested information concerning the future potential of steel tanks or precast concrete septic tanks. We believe this article answers many of the questions being raised by small business firms throughout the country who are presently engaged in or are contemplating establishing new businesses in this field.

PHILIP B. NELSON, *acting chief*
Products Assistance Division
Office of Procurement &
Technical Assistance
Small Business Administration
Washington, D. C.

Sirs:

... A splendid article (June issue) on the economics of sewage systems. We receive letters daily from your readers asking for further information and have had one gentleman wire us for prices.

It was a bit of a disappointment to us to note that the caption was reversed on the photographs of the Garden Manor installations and one of the Dorr Co.

JEANNE M. PORTER, *manager*
Advertising and sales promotion
Yeomans Brothers Co.
Melrose Park, Ill.

PARADISE IN A GARDEN

Sirs:

I am prompted to write by your presentation of Breuer's house and by the review of the Grants' book (March issue). Your attitude seems to be that gardens are fine as decorations for house facades, or as techniques with which to help sell houses, or as ways to make small houses seem bigger or etc. etc. . . .

We need to design places to live—not houses. And thus considered, everything on a property, within a neighborhood, in an area, becomes an important design consideration. Gardens move out and thread through the neighborhood; the private garden can give way to the landscaped footpath, to the school, to the park and playground where trees and sky and plantings are the environment.

In this sense the individual house and garden

continued on p. 94

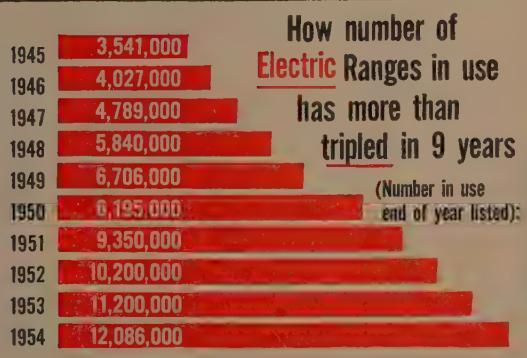


Builder Nathan Manilow of Des Plaines, Ill., says: "We recently completed one of the most outstanding sales achievements ever accomplished by the Manilow Construction Company, by selling 500 moderately priced homes in Des Plaines Villas in nine months. The sale price included four electric appliances, one of the most important being the *Electric Range*."

These builders tell why ELECTRIC Ranges help clinch sales!



Builder P. William Nathan of Norwalk, Conn., says: "Home buyers say they like our houses because they're exactly the kind they would build for themselves. One item of equipment they like is the modern, automatic *Electric Range*. Best proof of customer satisfaction is this—we sold 20 of our 56 houses in the first 7 days." (Illustration courtesy of LIVING for Young Homemakers)



Are You Traveling with the Trend?

The chart shows that the number of *Electric Ranges* in American homes has more than *tripled* during the past 9 years. Follow the trend! For quicker sales, install *Electric Ranges* in the homes *you* build!



Builder L. E. Breuninger, Jr., of Landon Village, Md., says: "We're an old-time building firm, but we've discovered a lot of new 'wrinkles' in home building. One of them is to include an *Electric Range* in every kitchen, regardless of the type of house or its size. Not all home buyers look for the same construction features—but they all want the advantages of cooking with an *Electric Range*."



Another group of Fadco-built homes, Cincinnati, featuring Alfol in ceiling and sidewalls. Inset: E. B. Fadden, Pres.

"...Fully-insulated with Alfol' is one of our top selling features!"

Just closing out a new 43-home project in suburban Cincinnati, Mr. E. B. Fadden, President of Fadco Lumber Fabricators, is a man who proves that it pays to build 'em better.

Every Fadco home ever built has been fully insulated—ceiling and sidewalls—with Alfol Reflective Insulation!

"...finest insulating comfort"

"This is one of our top selling features," writes Mr. Fadden, "since we can show prospective home buyers that they will have the finest insulating comfort, with economy, both winter and summer."

Fully insulating as he does, it is only natural that Mr. Fadden welcomes the savings provided by Alfol—and its remarkable speed of application. But his choice is primarily based on the selling advantage of delivering a better job of insulation!

Foil layers self-spacing

The Alfol blanket, "First in Reflective Insulation," consists of multiple aluminum foil sheets that space themselves automatically, reflect 95% of all radiant heat. A tough duplex-and-

kraft backing is built in to offer full application support, provide America's finest vapor barrier.

Clean, non-irritating Alfol takes the "itch" out of insulation. And its amazing compactness (500 sq. ft. to the roll) minimizes handling and storage expense. That's why Alfol usually costs less. Your dollar buys less labor, less "overhead" . . . more and better insulation.



Write for details.

Whether you build one home or a thousand, whether you install your own insulation or buy it contractor-applied . . . it will pay you to investigate Alfol. Write today. A detailed and illustrated pamphlet will be forwarded without cost or obligation.



ALFOL
ALUMINUM FOIL INSULATION



den become only a part of the wider designed landscape. Rather than being a sales gimmick to sell houses, the garden landscape can be a matrix within which we carefully set our houses and build our cities. The first paradise was in a garden, and I suspect ours can be, too, if we try to make it so.

LAWRENCE HALPRIN, *landscape architect
San Francisco*

HADLEY-CHERRY, continued

Sirs:

Enclosed is a letter from a vice president of The Moroccan Bank. We thought you might be interested in this evidence of the extent of your circulation and the interest caused by your article on us (Feb. issue).

We are still answering correspondence relative to that article and the extent of your circulation as evidenced by the enclosed letter proves that H&H really "gets around."

RAY K. CHERRY
*Hadley-Cherry, Inc.
Los Angeles, Calif.*

DISAPPOINTING PREFABS

Sirs:

I am disappointed at the offerings of the prefabricators in the New York metropolitan area. . . . I am convinced that the big prefabricators are failing to meet competition and their worst failure is in the field of design, especially in the 1,000 to 1,200 sq. ft. house designed to sell for \$12-\$15,000. My criticisms:

1. Inadequate closet space.
2. Inadequate master bedroom . . . a minimum should be 150 sq. ft. and 8 lin. ft. of closet hanging space.
3. Inadequate bathrooms . . . even prefabs as high as \$18,000 with land, have only one.
4. Need for over-all planning.
5. Two-bedroom house . . . has only a tiny living room, minimum closets, one small bath.
6. Lack of wall space, planning for furniture placement and traffic patterns.

If the prefabricators can bring their design up to the level of their manufacturing efficiency, they can capture a large share of the housing market.

WALTER L. LIPMAN, *real estate broker
Bronxville, N. Y.*

NO JOHN HANCOCK

Sirs:

. . . Wonderful story (Eichler homes, July issue). You list John Hancock as one of the lending institutions which serves us. I don't know if I misinformed you on this, but in any event, this is inaccurate.

EDWARD EICHLER
*Eichler Homes
Palo Alto, Calif.*

KUDOS

Sirs:

Many, many thanks for the new coupon—a big help in keeping files up to date.

BAYARD WILSON, *designer
Grosse Pointe Farms, Mich.*

HOMES PROMOTION BOOMS BUSINESS FOR U. S. STEEL

Personalized Coronados



BIGGER THAN THE BIGGEST!

The Bride's House promotion last spring was the biggest sales promotion ever to hit the building industry. And the most successful. It helped United States Steel Homes Dealers sell 2,000 homes, and to break all their previous sales records.

This fall, they will do even better. They will again surpass all previous sales records, even the records they set on the Bride's House; because they have a bigger, broader promotion going for them — a nationwide promotion of PERSONALIZED CORONADOS for family living.

EVERYONE HELPS TO SELL

A feature story on these homes in the September issue of *Living for Young Homemakers* kicks off the promotion. Then the excitement begins.

Advertising will be everywhere—in *Living for Young Homemakers*, in *Life Magazine*, on TV, on radio, in local newspapers.

Tie-in advertising and promotion by department stores, local dealers, and manufacturers of appliances, furniture, plumbing fixtures, rugs, kitchen equipment, and building materials will help the dealer to sell..

Publicity will help—mentions in shopping columns of local

RESEARCH

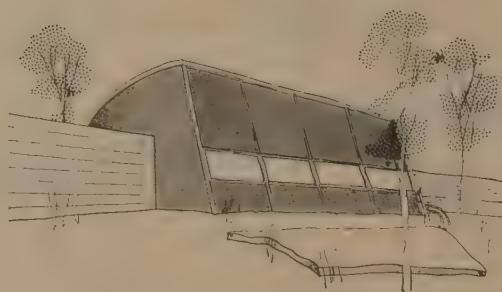
Plastics in houses, by the Department of Architecture, Massachusetts Institute of Technology. 77 pp. Illus. 11" x 12 $\frac{3}{4}$ ". Available for \$2 from Monsanto Chemical Co., Plastics Div., Springfield 2, Mass.

New uses for plastics are invading every phase of the building job.



MIT examines 100 different ways to use plastics in houses

Future uses may include inflatable "blankets" to catch heat for the solar house.

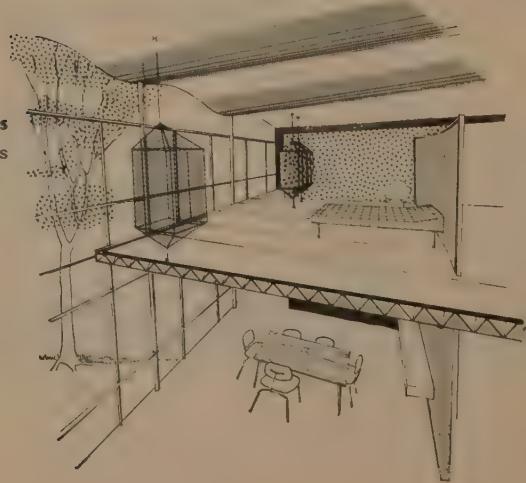


Reinforced dome structure, invented by R. Buckminster Fuller.



Illustrations courtesy Monsanto Chemical Co., Plastics Division

Large prefabricated parts for the roof, partitions and utility floor panels.



Plastics production has shot up by more than 1,000% since 1939, reached 2.8 billion lbs. in 1954—a bulk that would fill a line of freight cars stretched from New York City to Pittsburgh—worth \$1.4 billion at an average 50¢ per lb. In fact, annual tonnage now exceeds the annual output of the nonferrous metals, including aluminum! Of the total output, about 100,000 tons go into building construction.*

Many building uses. In spite of rugged competition from sometimes cheaper and generally more familiar building materials, plastics have already invaded almost every aspect of construction. In houses alone they have at least 100 different uses, from door knobs and lighting fixtures to soil stabilizers and structural panels.

Yet many building professionals still shy away from plastics as a substitute material, a colorful gimmick of questionable advantages. Actually, plastics can have the strength of a high grade steel, 50% greater Rockwell hardness than timber and a practical temperature range higher than aluminum or timber.

Limitations. However, plastics are still no magic cure-all for all building problems. For one thing, the average 50¢ per lb. cost means that many plastics are pretty expensive. For another, misapplications have boomeranged and greatly harmed the industry. What was urgently needed was a critical evaluation of where plastics can and cannot be used to greatest advantage.

Here is where MIT comes in. In this detailed report, just issued, researchers at MIT have appraised the current uses of plastics in housing. They have critically examined all of its uses in foundations and structure, walls and roof, flooring, openings, ceilings, partitions, mechanical elements, and storage furnishings. In each category plastics have as many as 25 different applications MIT reports which are good, which are not yet good and which demand further research.

The report is the first step in a "broad over-all study designed to expand the industry's knowledge of the proper and sound use of plastics in home design and to avoid misapplications." Credit for sponsoring the project goes to the giant Monsanto Chemical Co.—one of 51 basic producers in the field—who put up the money with no strings attached.

On two following pages are excerpts from the report giving advantages and disadvantages for plastics in houses, together with some potential future uses. It looks as if the sky's the limit.

continued on p. 183

* Figures are from the latest report of the US Tariff Commission.

CROWNING ACCOMPLISHMENT in resilient flooring... **VINYL TILE** by



See, feel, flex a square of WRIGHT Vinyl Tile--you'll agree there's no flooring material to compare with it, either for elegance or practicality. End product of long research and unique manufacture, WRIGHT Vinyl Tile is fully homogeneous. That's why it never wears unevenly...why its high lustre and elegant color patterns gleam uniformly over the whole flooring for the entire life of the tile.

But more than that--WRIGHT Vinyl Tile is a supremely practical flooring. It will not buckle under temperature changes. It will not warp or crack.

And it is highly resistant to grease, acids, alkali, light and flame. Moreover, it is water-proof, non-slip, and easier to keep clean than any other type of resilient tile flooring.

Discover for yourself how remarkable WRIGHT Vinyl Tile really is--how perfectly suitable for every type of installation. Fill out and mail the coupon for full information and free samples--before you select flooring for your current projects.

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BEDROOM



KITCHEN

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Dept. W14-9 P. O. Box 986, Newburgh, N. Y.

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WRIGHT Vinyl Tile Rubber Tile

Name _____

Address _____

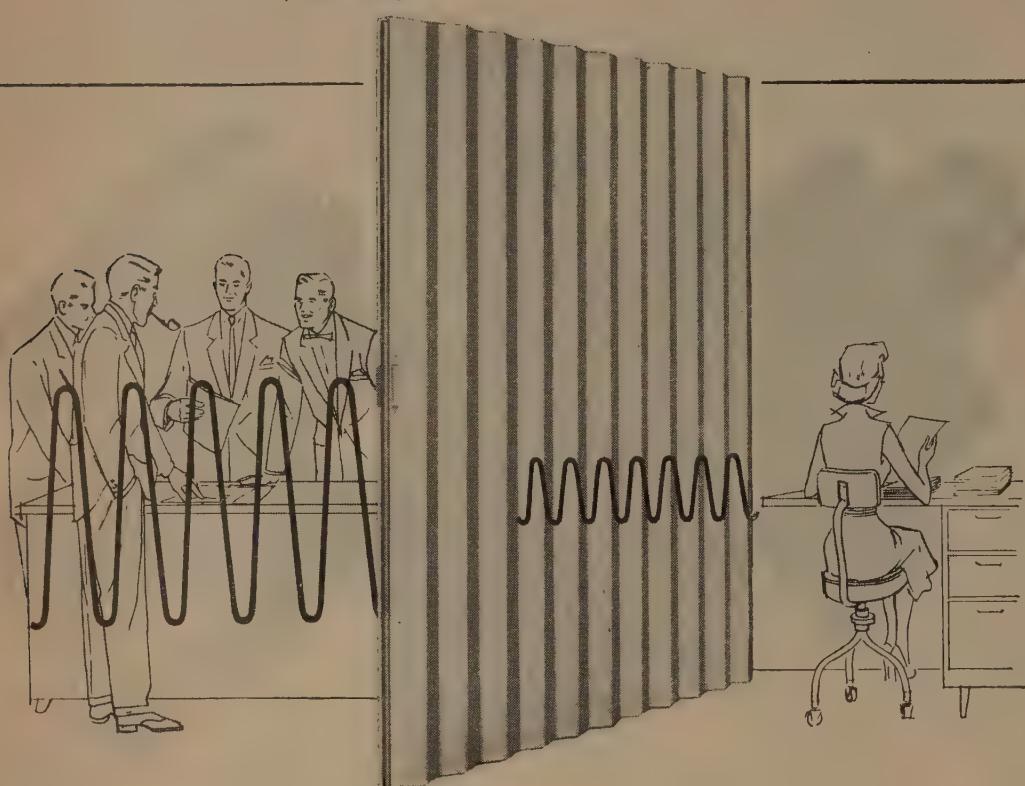
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(Patents Pending)

LAMINATED folding doors



offer more effective sound reduction

It's a fact that a Hufcor door provides more resistance to sound penetration than any other standard folding door. With inexpensive sweep strips added, Hufcor is as effective in reducing sound as special acoustically-equipped folding doors that sell at much higher price. This fact has been established through comprehensive analysis by a leading laboratory devoted exclusively to the study of problems in sound.

WHY IS THE HUFCOR FOLDING DOOR SUPERIOR?

Consideration of the structure of the Hufcor folding door indicates the reason for its superiority in resisting sound transmission. Each of the covers of the Hufcor door consists of solid 5-ply laminated sections, vertically joined to permit folding. It is the solidity and composition of these laminated covers that give Hufcor definite acoustical advantages.

OTHER OUTSTANDING FEATURES . . .

Laminated-section accordion fold covers plus internal steel pantographs create a dual pantograph effect, which integrates the motion of the door for smooth operation in opening and closing. Both children and adults can operate the door easily from any height. And because of this exclusive design, it has a "solid" feel un-

equalled by any other type of folding door. Hufcors are quality built and beautiful to see. Made in stock and custom sizes in choice of colors . . . for every interior door, moveable wall or room divider application.

WRITE FOR DATA FOLDER . . . gives comparative data proved in the laboratory sound studies mentioned above . . . along with general description and specifications. Your inquiry is invited.



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HOUGH Shade Corporation

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REVIEWS

New booklet lays down design principles for a cool house.

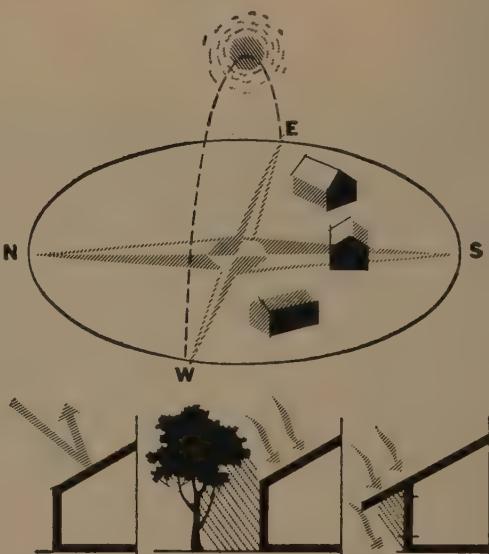
Insulation Design for the Air-Conditioned Home.
Owens-Corning Fiberglas Corp., Toledo 1,
Ohio. 20 pp. Ill. AIA No. 37-C

Any northerner who sweltered through 1955's torrid heat might find consolation in knowing that the summer sun was just as hot in Maine as in Miami, even hotter in Chicago than in Houston.

According to this new Owens-Corning Fiberglas Corp. booklet, the average daily sun load falling on a flat surface adds up to 1,850 Btu's per sq. ft., not only in southern states like Louisiana and Alabama but also in northern states like Maine, Minnesota and Washington. This figure includes cloudy and sunny days and is based on Weather Bureau records for July.

Incidentally, the summer sun evidently takes sharp aim at places like Chicago, where the heat comes to 2,040 Btu's per sq. ft. Houston, 1,100 miles further south, gets 1,850 Btu's daily—close to the average for most American cities.

What these figures point up is that the US summer heat problem is about the same everywhere. Regardless of its location a 1,000 sq. ft. roof is exposed to almost two million Btu's daily. This calls for a fresh look at house design for cooling.



Because the sun is the greatest enemy of the air-conditioned house, proper orientation and maximum shading are essential for good design.

Start at the roof. One intriguing fact pointed out is that the sun load can be worse on a sloping roof than on a flat roof. The sun "may raise a flat roof temperature to about 150° F. On sloping roofs, normal to the sun angle, the temperature can reach 165° or more." As far as roof heat load is concerned, this may well mean that the roof ridge should run from east to west.

continued on p. 106

building problem you've got

*...and help you build and develop faster,
with less risk, more profit*

These men are specialists—experts if you please—in each of the fields important to home builders and developers. They're men who will work with you to help you make your operation easier and more profitable when you build Harnischfeger's P & H Homes. If the problem is land, development, design, financing or sales, they can help—and so can P & H Homes.



CONSTRUCTION EXPERTS—Harnischfeger Homes erection supervisors help train your crews in speedy erection of P & H Homes prefabricated panels, show time-saving short cuts.

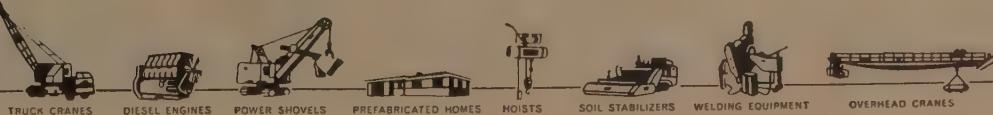


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59 Spring St., Phone 611. Port Washington, Wis. Offices in: Chicago, Cincinnati, Cleveland, Des Moines, Detroit, Indianapolis, Kansas City, Minneapolis, Pittsburgh, St. Louis



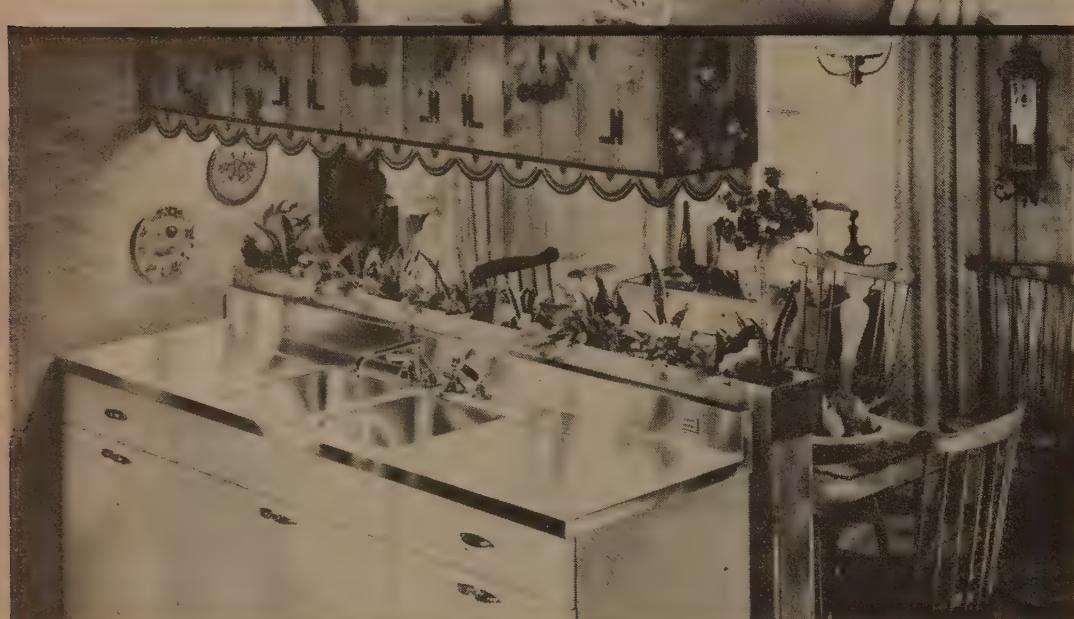
the **P & H** *Line*



Ladies LOVE Lustertone

Women all over America are fast learning that stainless steel makes the finest sinks

consistent consumer advertising and editorial support have convinced them that ELKAY Lustertone is the finest sink money can buy.



ARCHITECTS, BUILDERS, DECORATORS

agree that no other sink gives that *luxury look* like ELKAY Lustertone . . . no other sink adds so much to the appearance, permanence and practicability of any kitchen. Lustertone blends so readily with any color scheme . . . softly reflects surrounding color hues. So when you specify or install a sink, you'll build prestige when you select Lustertone stainless steel. Choose from 32 standard sizes including the new *Sit-Down** models or custom-made styles for any kitchen design.

*REG. U. S. PAT. OFF.

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SEE SWEETS **23b**
ELK

... the heart of the kitchen that lasts forever

ELKAY MANUFACTURING COMPANY

1874 South 54th Avenue, Chicago 50, Illinois

The World's Oldest and Largest Manufacturer of Stainless Steel Sinks . . . Since 1920

Best ways to combat sun heat are maximum insulation, maximum attic ventilation and light colored roofs (as detailed in H&H's *Five top priorities*, Aug. '53 issue). Maximum insulation normally means as much as 6" over the ceiling. But new figures in this booklet show that thinner (3") insulation will work as well in summer when it is enclosed in an aluminum foil wrapping. New 3" foil-enclosed batts and blankets will reduce attic heat flow through the ceiling to 2.5 Btu's per sq. ft., compared with 2.8 Btu's for 6" of fill insulation, 3.9 for 3" standard batts.

Heat flow through insulated ceilings	BTU/hr./sq. ft.	
Insulation in ceiling	Peaked roof, attic space above insulation	Flat roof, no attic space above insulation
2" Foil-enclosed ins.	2.9	7.1
3" Foil-enclosed ins.	2.5	5.3
1½" Std. building ins.	5.7	10.3
2" Std. building ins.	5.0	8.2
3" Std. building ins.	3.9	5.9
4" Loose fill	3.6	5.0
6" Loose fill	2.8	3.5

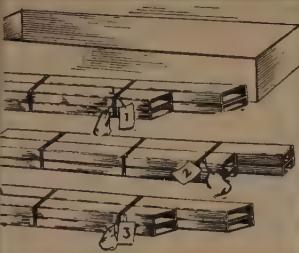
Heat flow chart shows how foil-enclosed insulation lets fewest number of Btu's through the roof. Figures are based on air-conditioned house study with 95° outside, 75° maintained inside.

Maximum ventilation. Although the sun may be hotter on a sloping roof, a flat roof poses a much greater cooling problem chiefly because it is so hard to ventilate. Specifically: "An attic type of house is easiest to ventilate; houses with plank-and-beam ceilings are more difficult (requiring ridge roof vents); flat roofs are still more difficult (requiring roof vents plus a mechanical means of moving air for best results); and cathedral roofs present the greatest problem due to the difficulty of ventilating the summer heat trapped in the roof."

The third prescription to prevent a hot roof is the use of light colors. The booklet says that a white roof can help keep homes cooler by reflecting over 50% of the sun's heat in summer. Other colors bounce back less heat; the darker the color the lower the reflectivity. What is unsaid, however, is that

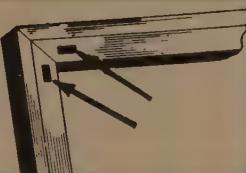
continued on p. 108

Exclusive ORGANIZED PACKING!



You receive 3 individually wrapped packages within one master shipping carton. Package 1 contains stationary panel, package 2 contains outer frame and package 3 contains sliding panel. Each package is complete with its own hardware and screws for assembly. No time lost hunting for parts — saves labor costs!

Exclusive ASSEMBLY CODE!



Simply match the color coded corners placed on each part within each package. Any one, without training, can assemble and install GLAMOUR quickly and without errors with the GLAMOUR "color code" and "Organized packaging"!

EASIEST TO ASSEMBLE!



1. Assemble the stationary panel (package 1).



2. Assemble outer frame (package 2) around stationary panel.



3. Take assembled stationary panel and assembled outer frame and set in wall opening.



4. Level sill, plumb jambs and fasten frame into opening.



5. Assemble sliding panel (package 3) and place in frame.



6. Now adjust rollers in sliding panel for alignment with frame.

The complete installation of a 6 ft. section will take approximately 30 minutes.

ONLY Glamour OFFERS YOU ALL OF THESE FEATURES!

The New Standard of Value

Glamour

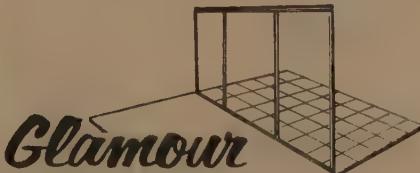
ALUMINUM SLIDING GLASS DOORS



*Custom Quality at Standard Prices
Compare these features for the proof!*

- GLAMOUR Sliding Glass Doors are available K.D. in multiples of 3 ft. (6-9-12, etc.) or 4 ft. (8-12-16, etc.). Overall height, 6'10". No extra mullions needed in any of our multiple door units.
- GLAMOUR units are architecturally symmetrical, designed with separate frame and two separate door panels for simplified assembly and installation.
- 6063-T5 Satin finish; thick aluminum — heat treated, rustproof — protected against moisture, abrasion and staining by our own "Glamourized" process.
- Full width jambs.
- Square tube door frame sections for full strength and rigidity. Mitred corners assembled with heavy wrought aluminum angles.
- Sliding panel can be removed easily without dismantling door.
- Bottom mounted adjustable ball-bearing rollers. Rollers adjustable after installation without removing frames. Rollers replaceable without dismantling door.
- Stainless steel roller track for lifetime wear — easily replaced if damaged.
- Fool-proof cadmium plated adjustable latch.
- Unique, stay-put wool pile weather-stripping, adjustable to seal at all times regardless of the level of the door or sill. Twin-sealed at locking stile and jamb. Weather-stripping replaceable without dismantling door.
- No special tools required for assembly or installation.
- Pitched sill can be installed after flooring is laid.
- Glass is installed from interior with easily removable aluminum bead — ideal for multiple story structures.
- Glass set in vinyl channels — ELIMINATES PUTTY!
- For single glazing ($\frac{3}{16}$ ", $\frac{7}{32}$ ", $\frac{1}{4}$ ") or double glazing (1").
- Assembly and installation screws are stainless steel or aluminum.
- Top hung extruded aluminum framed screens (optional at extra cost), completely assembled with fly strip.

SPECIAL PRICES TO BUILDERS AND ARCHITECTS!



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Please send me complete information and prices for GLAMOUR Aluminum Sliding Glass Doors. I am a
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A FEW EXCLUSIVE DISTRIBUTORSHIPS AVAILABLE. A FEW TERRITORIES OPEN FOR MANUFACTURER REPRESENTATIVES.



Residence of J. C. Davidson, Manager, Application Engineering Department, Airtemp Division, Chrysler Corporation, Dayton, Ohio. Completely air conditioned with Airtemp equipment and Kno-Draft Overhead Air Diffusers.



Living room has two Kno-Draft Diffusers. Air distribution system and fan-coil unit are located in attic. The condensing unit is at rear of house.

Why Air Diffusers are making grilles obsolete

Unlike grilles, which merely "dump" warm or cool air into a room, letting it mix *ad lib*, Kno-Draft Overhead Air Diffusers are true air mixing devices. They do their job thoroughly, within inches of the diffuser and well above the living level.

Thus, there is no feeling of air movement, no drafts, and temperature is equalized throughout the area. And home owners also appreciate the clean, anti-smudge operation of Kno-Draft Diffusers and the freedom in furniture placement they allow.

From the contractor's point of view, the superior advantages of Kno-Draft Air Diffusers mean added sales appeal and a chance to get away from straight price competition. And Kno-Draft jobs are easy to figure, easy to install.

You'll be interested in our special bulletin describing Kno-Draft Residential Air Diffusers—their advantages, method of selection, system layouts, installation details. Send for your copy today. Connor Engineering Corporation, Dept. F-95, Danbury, Connecticut.



In the dining room and kitchen, Kno-Draft Air Diffusers with integral lighting fixtures are used. These are available in a variety of styles, and may also be adapted for dropped lights.

a light roof can get dirty pretty fast, which will sharply reduce reflectivity. Because a light colored roof cannot be counted on for sustained cooling effect, the use of heavy insulation and maximum ventilation takes on increased importance.

The walls. On this subject the Fiberglas people say emphatically: ". . . where a large proportion of wall areas is glass the solid walls must be insulated with even greater care to keep over-all heat losses down." And because walls exposed to long periods of solar radiation can reach temperatures of 130° they should be fortified with at least 3" of regular fiber insulation. Foil enclosure adds extra insulation value but not as much extra as in the roof.

Other factors. Though their business is insulation the Fiberglas people also give more than lip service to the heat-control importance of exterior shading devices, kitchen exhaust fans, and sizing the unit for continuous operation. They also discuss the role of children as an occupancy factor.

The only debatable thing about the booklet is the use of peak heat gain figures in calculating the total heat load of a house. Unlike heating, cooling calculations are strongly helped by the storage effect of a structure. For example, a house with a peak total heat gain of 4 tons can usually be cooled by a 3-ton unit. This is because storage effect makes a shambles of the workings of conventional heat gain formulas.

But this minor flaw should deter no building professional from latching on to a copy of the booklet, the quicker the better if you have an air-conditioned house on your drawing board.

EXCERPTS FROM RECENT BOOKS

"Question: Can a small manufacturer afford an industrial designer?"

"Answer: He cannot afford to be without one, because industrial design is a great equalizer. The public isn't interested in the size of the manufacturer; it is interested only in getting its money's worth. In other words, a small manufacturer's product must compete in the open market with the big manufacturer's product. Suppose ten men pool their funds and make an electric toaster—a good electric toaster—and put it on the market. Their product is still going to have to stand comparison with General Electric and Toastmaster. . . ."—**Designing for People**. By Henry Dreyfuss. Simon & Schuster, New York City. 240 pp. Ill. \$5. (Editor's note: For "small manufacturer" read "small builder," for "industrial designer" read "architect," and for "electric toaster" read "three-bedroom house"—and Mr. Dreyfuss' comment still makes sense.)

continued on p. 112

CONNOR

ENGINEERING
CORPORATION

kno-draft®
residential air diffusers

drop-in **TAPPAN** built-ins fit standard 24" cabinets . . . cut your costs

Now—as easily and as fast as you can complete an ordinary kitchen—you can put modern, beautiful, sales-building Tappan Built-In Ranges in your homes. New Tappan gas Built-In ovens and surface units drop into standard 24" cabinets. Surface units take only two cut-outs instead of the usual four. Both units can be installed in minutes.

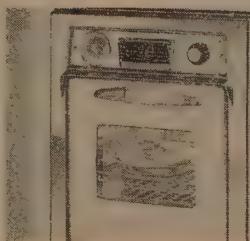
Three models . . . sell-on-sight features with Tappan, the big name in built-ins

Tappan is the quality cooking name that women trust. And you can choose the model to fit your plan and price—smart Lusterloy with solid oven door, the matchless model with Lusterloy door and convenient Visualite window, or the matchless, automatic clock-control beauty, shown here, with Lusterloy finish and Visualite window.

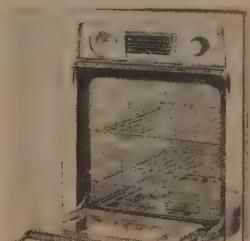
No other built-in offers so many wanted features:



Superb Tappan cooking performance



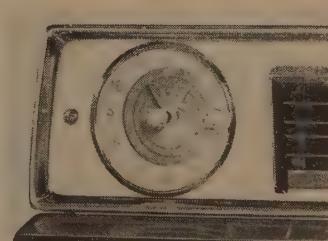
Convenient Visualite oven window



Best-baking chrome-lined oven



Lift-Off oven door for easy cleaning



Automatic clock controls



Separate roll-out broiler drawer

Choose either gas or electric . . . please every buyer

Reduce labor costs, simplify specifications. Let the top name, Tappan, help you cash in big on the built-in trend. Get complete information and price lists right away.

Special deal
for builders!

Call, wire or mail
this coupon today!

Dept. HHB-95, The Tappan Stove Co., Mansfield, Ohio

Please send me complete information and prices on the new Tappan gas and electric built-in ranges.

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FIRM _____

ADDRESS _____

CITY _____ STATE _____

I build homes

I remodel kitchens

Sun Valley "JUNIOR"

ALL ALUMINUM SLIDING DOORS

designed for
built for
priced for



* LET IN THE SUN
WITH SUN VALLEY

Now...at last...an all aluminum sliding glass door designed specifically for multiple housing projects and low budget installations. New improved production techniques have made it possible to produce a quality door at the lowest price ever before offered.

Prices on *Sun Valley "JUNIOR" Door*

All doors 6', 10" high

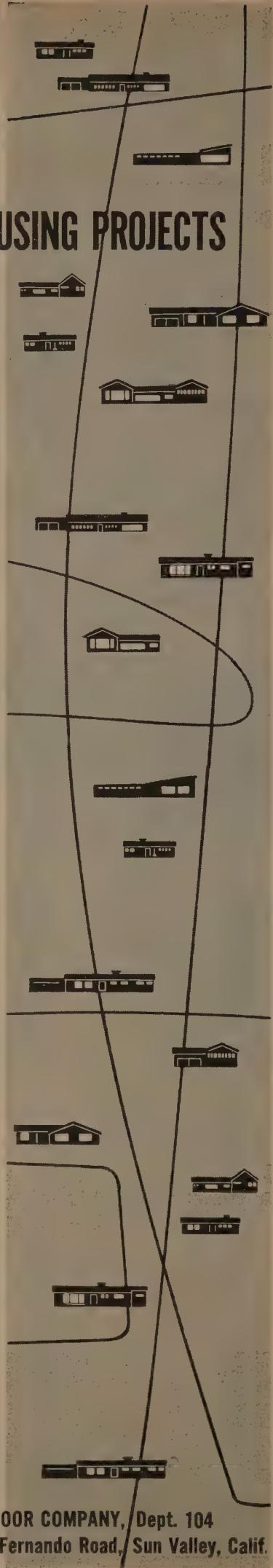
DOOR WIDTH OPENING	LIST PRICE
6'-0" (2 panel)	\$ 90.00
8'-0" (2 panel)	\$102.00
10'-0" (2 panel)	\$114.00
12'-0" (2 panel)	\$126.00

- locking stiles may be reversed permitting sliding unit to be right or left.
- all aluminum
- aluminum etched for corrosion resistance.
- units will accommodate glass of 3/16", 7/32" or 1/4" thickness.
- quantity discounts available.

For further information on the Sun Valley Junior and Sun Valley Aluminum Sliding Glass Doors, write:

Sun Valley

SLIDING DOOR COMPANY, Dept. 104
8354 San Fernando Road, Sun Valley, Calif.



REVIEWS *continued from p. 108*

EXCERPTS FROM RECENT BOOKS *continued*

"The question remains, and always will: what is good taste? What, in fact, is good design? Very few amateurs are experts in color harmony. An understanding of scale, proportion, harmony comes from study; our natural reactions to basic esthetic stimuli are too overlaid with our background and environment—and the prejudiced arguments of different 'schools'—to be innately reliable. For that reason, anyone who is seriously planning a sizable expenditure for the design or redesign of an interior should call on professional help. . . ."—**Designs for Living.** 175 Examples of Quality Home Interiors. By Katherine Morrow Ford & Thomas H. Creighton. Reinhold Publishing Corp., New York City. 215 pp. Ill. \$5.95.

* * * *

"The growing high cost of labor and site work will force building more and more into factories where components will be made to be assembled on the site in a minimum of time . . . such industrialized building components will be the key to decreasing the costs of building and at the same time increasing its quality and permanence. The production of standard parts must, however, be kept alive by imaginative designers to ensure that the end result will not be a soulless assembly of mass-produced material, but that industry will only be a new means in the shaping of the architecture of tomorrow."—**Houses, Interiors and Projects.** By Harry Seidler. Associated General Publications, Sydney, Australia. 156 pp. Ill. \$9.50.

* * * *

"The traditional answer to the problem of shelving is to get boards, cleats, screws, nails—and a carpenter. The contemporary answer is to get an assembly of fairly intricate factory-made components—and to eliminate the carpenter"—**Storage.** Edited, with an introduction by George Nelson. Interiors Library. Whitney Publications, New York. 176 pp. Ill. \$12.50.

* * * *

"A changing society generates demands for new kinds of building which will be frustrated if competently educated architects are not available in sufficient numbers to influence the design of new construction. Without architects, a period of rapid expansion could lead to confusion and even to disappointment of the aims of building. Building creates an environment which conditions most of the activities of an increasingly urban society. Architects must therefore be sensitive to the social and economic ramifications of building."—**Architects for the South.** Southern Regional Education Board, Atlanta, Ga. 29 pp.

house & home

SEPTEMBER, 1955

Published by TIME Incorporated

EDITOR-IN-CHIEF Henry R. Luce
PRESIDENT Roy E. Larsen

HOUSE & HOME

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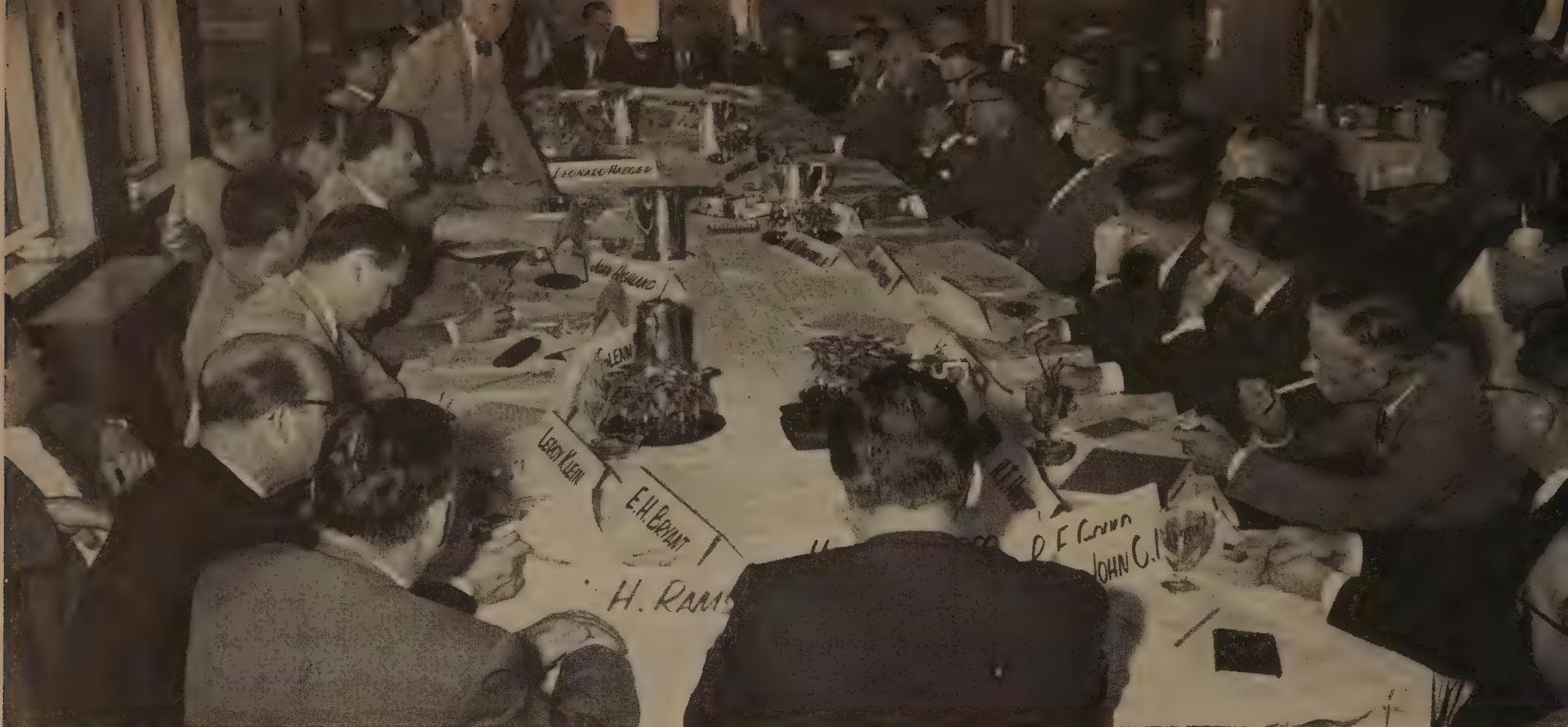
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Cover: Tall living rooms by (top left) Philip Johnson (photo: © Ezra Stoller); right: Frederick D. Nichols (photo: Ben Schnall); lower left: Harry Seidler (photo courtesy Associated General Publications, Australia); lower right: Vernon DeMars (photo: Roy Flamm).



Photos: R. Johnson

Standardization Round Table recommends 24" module to sell more built-in kitchens

Here is a series of unanimous recommendations for making the built-in kitchen a more effective tool for selling more homes and more kitchen equipment at less cost to the public and more profit to manufacturers, distributors, and builders.

No. 1 recommendation is to standardize kitchen cabinet and appliance dimensions on one standard height, one standard depth and one basic 2' width module, with a 1' half module.

The recommendations were developed at a Round Table jointly sponsored by the American Standards Association, HOUSE & HOME, and the Research Institute of the National Association of Home Builders. Joining in the recommendations were representatives of the American Institute of Architects, the Building Research Advisory Board, Lumber Dealers' Research Council, Cornell Housing Research Center, the Prefabricated Home Manufacturers Institute, the American Gas Association, the National Electrical Manufacturers Association, and top executives of many of the most important manufacturers of kitchen appliances, cabinets, wall and floor coverings, including: *Youngstown Kitchens; Frigidaire; Hotpoint, Inc.; Congoleum-Nairn, Inc.; Whirlpool Corp.; Servel, Inc.; A. O. Smith Corp.; General Electric Co.; Kelvinator; Caloric Appliance Corp.; The Kitchen Maid Corp.; American Radiator & Standard Sanitary Corp.; Curtis Companies, Inc.; Tracy Kitchens; Westinghouse Electric Corp.; Masonite Corp.; Geneva Modern Kitchens.*

The recommendations were aimed primarily at the builder's house, which now accounts for well over 80% of all new homes, but the panel agreed that most of its proposals would work equally well for any kitchen, new or remodeled.

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The merchant builder's best new selling tool is the built-in, fully equipped kitchen, sold under the package mortgage.

It combines obvious eye appeal with obvious practical advantages. It gives the effect of greater spaciousness by eliminating clutter. It saves space and saves steps. It is the neatest way to offer what many women want most of all, easy housekeeping. Its appliances lighten every work load, and it is easy to keep clean. Its continuous surfaces are easy to wipe off, and there are no hard-to-get-at dirt traps between cabinets and appliances.

It is a natural for that other new best seller, the open kitchen that lets the housewife share the life of the family, enjoy her guests, and keep an eye on the children while she works—for the open kitchen calls for much more than just knocking out a wall. It calls for making the kitchen cooler. It calls for acoustical treatment to make the kitchen quieter. Above all, it calls for redesigning the kitchen to look right as part of the living area. All these advantages can be planned in better with built-ins.

Kitchen sizes are semistandardized; now is the time to finish the job

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HOUSE & HOME

The built-in kitchen will be a much more used and useful selling tool if we can get its cost down. It could and should cost quite a bit less than a kitchen with the same appliances free standing (see section E), but today it costs quite a bit more.

One big reason for its cost is that kitchen built-ins still come in far too many sizes. They come in too many sizes for the builder, too many sizes for the architect, too many sizes for the distributor, too many sizes for the manufacturer. And those sizes are not properly coordinated.

So the one best way to cut the built-in kitchen's cost is to finish standardizing its now half-standardized dimensions, concentrating on a few sizes to maximize the savings of quantity production and minimize the cost of warehousing and distribution, sizing all the kitchen components to fit together for easy installation, sizing the room to fit the sum of its components.

In brief, we need one standard cabinet height, one standard cabinet depth, one standard module of cabinet width. These standard dimensions will save manufacturers, distributors, builders, and home buyers many millions of dollars a year.

Manufacturers can speed general acceptance and adoption of modular sizes for all builders' houses by:

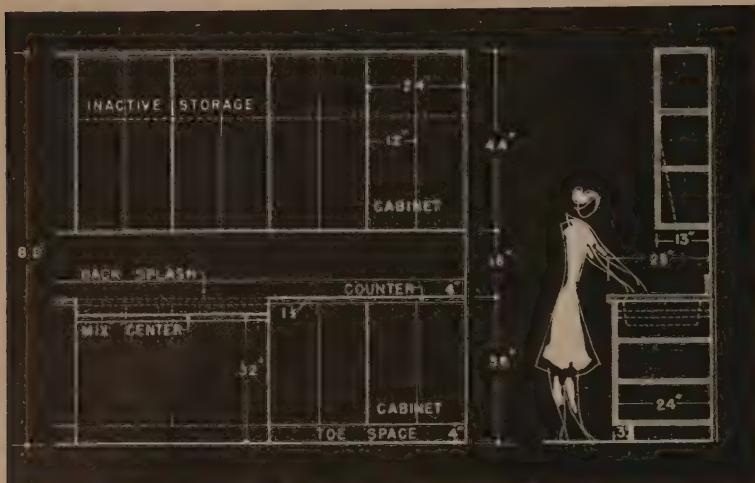
1. Quoting slightly lower prices for these money-saving standard dimensions;
2. Making it easy for architects and builders to find and specify their standard sized units by listing them in a catalogue of modular components.

The built-in kitchen will not achieve its full sales and selling potential without a great deal of new thinking all along the line, new thinking about everything from color coordination (see section K) to trade-ins on the home buyers' present appliances. FHA must modify its minimum income requirements and recognize that home buyers whose built-in kitchens are covered by package mortgages can afford much nicer houses than people loaded down with short-term loans of 9.6% interest to pay for the same appliances (see section M). Builders must take a less pennywise attitude and make it well worth the manufacturers' while to focus far more creative effort on the builders' market. Manufacturers must recognize that 1,300,000 new houses a year can be as important to them as 50,000,000 old houses, for the new houses sets the standard for what the public wants. (See section N).

But right now the first thing needed is to standardize and coordinate built-in dimensions.

...continued

a. Here are basic dimensions we recommend to the American Standards Assn.*



Recommended dimensions

Ceiling height	8'
Counter height	36"
(Exception: an optional 32" high mix center)	
Counter thickness	1½"
Counter depth	25"
Base cabinet depth	24"
Cabinet width module	24"
half module	12"
Clearance between counter and upper cabinet	16"
Back splash height	4"
Toe space height	4"
Toe space depth	3"
Upper cabinet depth, including 1" door thickness	13"
(Exception: some upper cabinets might slope out from 8" minimum, for 80% of all items stored in upper cabinets are less than 8" deep)	
Sink drain roughing height to allow for disposer	18"

The NAHB-ASA-House & Home Round Table on window dimensions has already recommended a standard 3' height for kitchen windows and a sill line at either 44" or 48", with a width of 32", 48", 64", or 80". With cabinets ceiling height, kitchen planners would no longer have to worry about lining up cabinet tops with door and window heads.

b. We would change only one industry standard—and that change would take off only ½"

As far as possible all the dimensions we recommend for American Standards conform to present practice and design, for we recognize that:

1. The one best way to hold down the price of built-in appliances is to let them fit the same patterns, dies, tools and components as free-standing units, thereby giving each the maximum benefit of quantity production.

2. Any change from existing sizes will cost money and take time.

The 36" counter height we recommend, the 25" counter depth, the 1½" counter thickness, the 13" upper cabinet depth, the 4" x 3" toe space are already industry standards. The only established industry standard we would like to see changed is the 24½" cabinet depth under the 25" counter. This is an odd dimension that will make trouble at every corner. Furthermore, it is an odd dimension in conflict with the 24" depth that is fast becoming standard throughout the other rooms of the house. The sooner the over-all depth of base cabinets can be brought down ½" to 24" the better. This will be something of a problem with present sink castings.

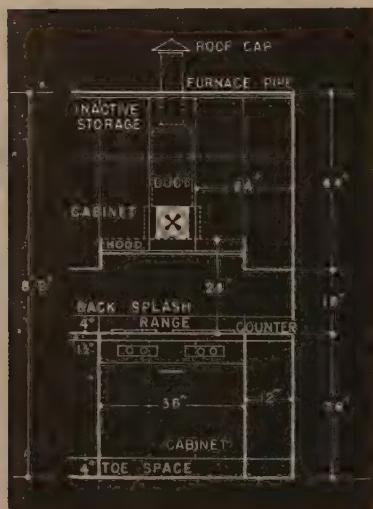
All our other recommendations affecting height and depth are designed only to fill in certain gaps in existing standards. Specifically, we propose to:

1. Fix the clearance between counter and bottom of upper cabinet at 16". This will cut economically out of almost any wall covering material.

2. Let the builders apply a continuous 4" splash back along the whole length of the counter. If each manufacturer were to attach his own splash back of his own design the result could only be organized confusion.

3. Take advantage of the standard 8' ceiling height to carry all cabinets up to the ceiling. This will a) provide better secondary storage; b) make it unnecessary for builders to go on wasting money on a plaster wall between the studs and the cabinets (this in turn will make it easier to attach the built-ins to the studs); c) eliminate any design problem lining up the cabinet tops with the door and window heads.

4. Standardize at 18" the height at which the sink drain goes through the wall, thereby obviating any chance of expensive changes in the rough plumbing if a garbage disposer is added later. (The trap should be 7" below the deepest standing water, and in a double sink that might be 11" below the counter.)



Built-in range top

* The standard dimensions we recommend for kitchens built into a new builder's house as part of the original construction will work equally well for remodeling old kitchens, with this exception: it is too late to size the kitchen itself to fit our modules, so filler pieces will be needed.

c. A 24" module would meet more needs with less retooling than any other

Here are six reasons why we consider it almost inevitable that built-in cabinet and appliance widths will soon standardize to fit into a 24" wall module. Eventually, why not now?

- 24" and 12" are the only modules that will work with both the 3" and 4" modules. The steel cabinet makers have spent millions of dollars tooling up for the 3" module. Other manufacturers have invested millions on the American Standard 4" module sponsored by the American Institute of Architects, the National Association of Home Builders, and the Producers Council. Neither group can afford to retool to the other dimension. With 12" and 24" modules, neither would have to.

- 24" coincides with the house framing at every second module, divides evenly into both the most common kitchen dimensions, 8' and 12'. It fits exactly the standard 8' wet wall length of the bath against which so many kitchens are set back to back.

- 24" and 36" have been standard widths for many kitchen units for years. The 36" is standard for double sinks, 48" for dishwasher-sink combinations, 24" for water heaters. The American Gas Assn has recommended a standard 24" cabinet for the gas built-in oven. 24" and 36" are good widths to allow for built-in range tops.

- 24" is the recommended standard depth for kitchen appliances, and any appliance with a circular core (for example, dishwashers, water heaters) is almost bound to be as wide as it is deep.

- 24" is the module recommended after careful consumer research by the Cornell Kitchen Study*, which proposed standardizing the kitchen in six modular work centers—an 8' sink center, a 4' range center, a 4' built-in or wall-hung refrigerator, a 2' built-in oven, a 4' mix center, and a 4' serve center. Presumably some of these centers could be omitted or overlapped.

- At least two of the biggest appliance manufacturers will soon announce a complete line standardized on a 2' module. The architects, builders, and prefabricators among us all believe this will have such sales appeal that other manufacturers trying to sell the builders' house market will have to bring their dimensions in line.

* In cooperation with Reynolds Metals, Pittsburgh Plate Glass, Enamel Products, G.E., A.J. Lindemann and Hoverson, Monsanto Chemical Cooperative GLF Exchange Inc., Sears Roebuck

d. Laundry equipment dimensions need not determine the choice of a kitchen module

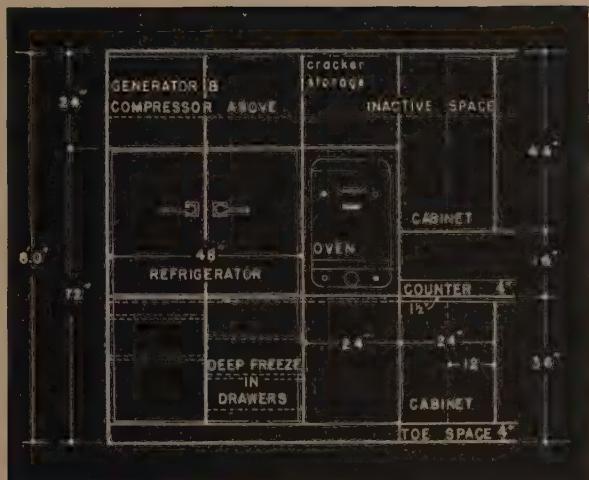
The standard dimensions we recommended for kitchen cabinets and built-in appliances will not always work for laundry equipment. Only the tumbler-type washing machine can fit easily into a 24" depth and still handle the desired 8 or 9 lbs. per load; most washers and driers require 32" to 36" of wall space. Today only one make of washer-drier can be placed under a counter of any height, because most of them have their controls on top.

None of us sees any need of changing the kitchen module to conform to laundry dimensions. On the contrary, we see at least three good reasons why the laundry module should be set independently:

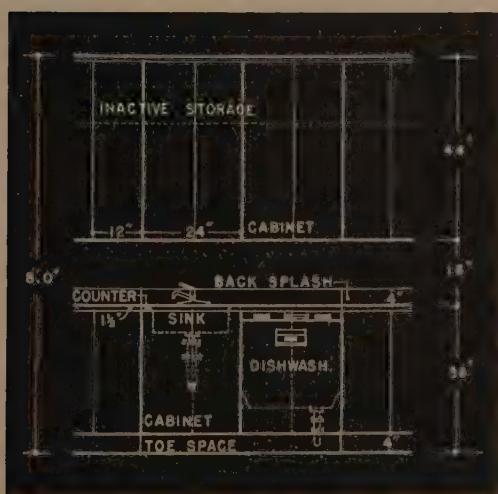
1. There is little room for laundry equipment in an 8' x 12' kitchen, whose base cabinet length after deducting two doors is 26'.

2. More and more experts and more and more housewives are coming to think the laundry belongs either in the utility room (if any), or the bath (where it just fits the 32" bathroom module) or in the bedroom hall.

3. Laundry equipment requires such elaborate connections for water supply, drainage, electricity, gas, and venting that its location must be fixed before the house is built, and all the connections must be roughed in during construction (when they will cost only a small fraction of what they would cost later on). No builder can afford to provide all these connections at more than one spot, so it is less important that laundry equipment cabinets be interchangeable with standard storage and other units.



Refrigerator and oven



Sink and dishwasher

continued



ANDERSON: One of the best things we can get out of this meeting is a better understanding of one another's problems.



STACKPOLE: These are mutual problems and we must solve them together.



MARTIN: In the preparation area 36" is not the best counter height.



GASNER: I think that ten years from now they will be sorry they did not do it now.



HAEGER: You must recognize the tremendous industrialization that is taking place in the home building industry.



YOST: The appliance industry is part of the building industry.

e. Here are some of the ways standardization can help cut built-in kitchen costs

Architects and builders care much less what kitchen built-ins cost f.o.b. factory than what they cost in place. Manufacturers can sell a lot more built-ins if they help builders get installation costs down.

Here are seven of the many ways standardization can help builders get a better built-in kitchen for less money. All seven ways call for better and more careful planning.

1. Builders can plan to save space (which means money) by sizing their kitchens to fit the 2' cabinet module closely.*

If prefabricators can work to less than $\frac{1}{2}$ " tolerance in the 40' length of a house, is there any good reason why builders using framing templets cannot work to a $\frac{1}{2}$ " tolerance in assembling half a dozen cabinets to form a 12' kitchen wall; i.e., is there any reason why they cannot work to a tolerance small enough to cover with a molding, with no need of filler pieces to make the cabinets?

Some manufacturers on our panel have expressed concern over how corners can be turned without the 2" filler in each direction that has long been customary to provide clearance for doors and drawers to open. The architects, builders, and prefabricators among us are unanimous, however, that this is a problem the manufacturers will have to solve—perhaps with recessed hardware, perhaps with special next-to-the-corner cabinets whose openings are offset 2" from the corner, for three 2' cabinets turning a corner provide no more good

The best solution, they say, is to avoid butting cabinets at the corner, for three 2' cabinets turning a corner provide no more good storage than two 2' cabinets with a 2' space between.

The worst solution, they insist, is to let filler pieces at the corners throw the whole kitchen off the module—especially where the kitchen module coincides with the framing module.

2. Builders can plan to save the whole cost of a wall behind their built-ins when their cabinets fit wall to wall and floor to ceiling. Cabinets can then be attached directly to the studs.

3. Builders can plan to save half the cost of their floor covering by stopping it at the toe space line 21" from the wall. On an 8' x 12' kitchen with cabinets all around the walls except for 6' at the doors that would reduce the finished floor area from 96 sq. ft. to 50 sq. ft.

Only the most durable materials should be used on kitchen floors, which get far more constant wear than any other surface in the house. For 50 sq. ft. the best floor covering will cost no more than a cheap one for 96 sq. ft. wall to wall.

4. Manufacturers can help builders cut costs by designing all appliances for one easy connection to gas, electricity, water supply, and drainage lines. Connecting up the wiring should involve nothing more than a two-pronged or three-pronged plug-in. The Research Institute of the National Association of Home Builders should work out predetermined standard locations for these connections with the American Gas Assn. and the National Electric Manufacturers Assn.

More adequate wiring is one of the biggest needs of the builder's house. A continuous plug-in strip should be incorporated in the back splash for the multitude of labor-saving small appliances now used in every well equipped kitchen, and it should be made easy to incorporate lighting coves and lighting valances in the cabinets to light up their interiors and throw 40 foot-candles on the work surface where needed. Such lighting proved the most popular single feature of the Cornell kitchen.

5. Builders can plan all water-connected appliances to fit along the wet wall, all appliances needing heavy electric wiring (which costs \$1 or more per ft.) to fit together close to the entry box, all appliances using gas for short pipe areas.

6. Every new house should be roughed in for a dishwasher, a clothes washer, and a disposer and, of course, a water heater. It should have gas and/or electricity connections for range, oven, and drier. All this will cost far less as part of the original construction than tearing out the walls to put it in later, but it is practical only if the builder can be sure that the connections he provides will fit any make of appliance the owner may select to build in later on.

One big advantage of standardized dimensions is to make storage cabinets and appliance cabinets interchangeable for easy substitution of appliances not included at the start.

7. Manufacturers and builders must both plan appliances for easy inexpensive replacement as they wear out or become obsolete. Otherwise a kitchen which starts out as a fine selling feature may become out-of-date and unsalable within ten years and so cut down the trade-in value of the whole house. This easy replacement cannot be planned unless we first establish standard dimensions and standard connections.

Built-in appliances should cost less to replace than free standing because it should not be necessary to replace the case.

f. The modular kitchen can be not only cheaper but better

We agree with the report of the Cornell kitchen research that: "A modular kitchen would permit greater flexibility in kitchen plans. Cabinets could be interchanged to produce any variety of layouts. Parts from one cabinet could be fitted in to any other without further cutting or shaping . . . in terms of over-all kitchen design the cabinet planned as a module would bring to the kitchen an orderliness and harmony, unity and proportion it rarely has . . .

"Standardization would mean that the products of one cabinet manufacturer would fit readily with another's. With concentration on a few accepted dimensions there could still be great variety of design and color. Building-in increases the efficiency of the kitchen as a work room."

* One panel member "doubted the wisdom" of this suggestion.



BEYER: 24" would be excellent.



REINBOLT: We can build one 36" cabinet cheaper than two 18's.



HULETT: In the past we have not had any real dimensions to work towards and therefore we did not work toward any.



WASMUTH: To beat our costs, less expensive materials would have to be used.



ALDERMAN: In my company's line there are 1,400 items based on 3". . . Most of us already make cabinets 24", 36" and 48" wide.



O'HARROW: We have just had to add 19 more standard cabinet sizes to our line.

g. Built-in refrigerator makers can avoid costly mistakes

Few appliance makers have gotten around to including refrigerators in their line of built-ins, so it is not too late for the customers among us to offer some design advice that may save the manufacturers some very costly mistakes:

1. The refrigerator is the only appliance whose depth does not already conform to the 24" or 24½" depth on which the other base cabinets have been standardized. That is because the manufacturers have been designing their product on the theory that wall space is more valuable than floor space. For free-standing units for old houses this theory may hold true; but for built-in refrigerators in new houses we are unanimous that architects, builders, and prefabricators would much rather have the refrigerator take up a little more wall space in order to line up flush with all the other built-ins. The trend to larger refrigerators is clear, and we see no reason why built-in refrigerators should not standardize on 3' and 4' over-all widths.

The physical reason why today's refrigerators stick out so far into the room is that 3" to 5" was added to their depth to put the compressor and a condenser behind instead of on top or below. When the refrigerator is integrated into a ceiling-high cabinet there will be more than enough room for the compressor in the space above, which could otherwise be used only for secondary storage (partly by putting the compressor on top, one wall-hung built-in refrigerator has already cut its depth to 17").

2. For years architects and builders have been urging refrigerator makers to redesign their fronts so that the door will open within the width of the chest for today's wide-swinging door puts a 6" wide dust trap in every kitchen corner. The built-in kitchen gives new urgency to this demand, for today's doors make it quite impossible to build the refrigerator into a corner.

This design change would necessitate hinging the door on the inner face of the refrigerator side wall instead of the outer face. None of us sees any reason why this improved design should cost much more to manufacture.

3. Too many of today's refrigerators have enlarged their freezer sections without changing their location from the most convenient and accessible level. It would be much better to drop the freezer section to the bottom. Women go to the refrigerator five times as often as they go to the freezer, so there is much less objection to a freezer they have to stoop to reach than to low-level refrigerator shelves.

4. We are enthusiastic about the new wall-hung and built-in refrigerators which are just coming on the market, for they make it easier to store foods at the point of first use. We hope their dimensions will be brought in line with the 2' module at either 4' or 6'.

The wall space wall-hung refrigerators take up is too valuable to permit its use for any but the smallest deep freeze compartments. These can better be located in drawers below the counter.

h. Where to put the hot-water heater

Except where the water inlet temperature is high or where the 4,500 w. heater is permitted, putting the water heater under the counter is no longer advisable. For the increased hot water demand for today's added baths, larger families, dishwashers, and clothes washers is now too much for the biggest heater that can be fitted into a 36" high cabinet (20" to 22" is the economic limit on tank diameter).

If the builder wants to keep the water heater in the kitchen, there is room for a heater 44" high at upper cabinet level. None of us sees any reason why it should be too expensive to support its 650 lb. weight on three studs and one joist in a kitchen corner, preferably the corner where the wet wall meets the hall (where access could, if necessary, be from the hall).

i. Fans and vents can be built in cheaper when the house is being built

Major appliances generate a lot of heat, and every kitchen should be planned to get the heat out fast along with excessive cooking odors.

Cooling experts figure the daily heat load from the appliances at about 66,600 Btu's—almost as much heat as a ½-ton cooling unit could handle in 12 hours. Much of this heat takes the form of humidity, which is doubly hard to get rid of with refrigeration. And peak loads can run to more than 24,000 Btu's per hour or 2 tons.

Here is the breakdown for a typical day:

Cooking	24,000 Btu's
Refrigerator	4,800
Freezer	4,800
Dishwasher (two cycles)	18,000
Drier (one cycle)	15,000

66,600 Btu's

To blow this heat out every kitchen should have a quiet exhaust fan of at least 350 cfm capacity, big enough to change the kitchen air every 3 min. at peak hours. The best location for the fan is right over the range, where it will pick up 55% of the range heat. With a hood dropped to 2' above the burner its effectiveness can be increased to 67%.

A cool kitchen becomes more desirable than ever when an open kitchen is made part of the living area, and manufacturers should give more thought to direct venting. Today of the appliances listed above only clothes dryers and gas ovens can be vented. It is becoming almost as desirable to make some provision for venting dishwashers and electric ovens (after the heat is turned off, of course). Venting should cost a lot less if planned as part of the original construction.

continued



THEELEN: We are mass producers so we love standardization.



BRYANT: Kitchen floors get the heaviest wear.



DEMAREST: Every 12" the 3" and the 4" modules get together.



HIGHLAND: If we can build appliances in more economically we can build that many more.



POLLMAN: Today a majority of the new houses are built by a comparatively small number of builders.



LINN: FHA will give credit for the cost of upper storage.

i. Today's kitchen needs far more planned storage

The kitchen work area should be kept compact to save steps and make housework easier. It can be as small as 8' x 9' (the FHA minimum for a three-bedroom house is 70 sq ft.); it seldom exceeds 12' x 12'. Commonest size is 8' x 12'. The model Cornell kitchen fits comfortably into 8' x 12'.

In such a small room every available foot of wall space should be used to meet the greatly increased demand for storage space—a storage demand which has almost doubled since the war because 1) families are bigger; 2) families have more money and are buying more small appliances—more mixers, rotisseries, more dishes, more glasses, all of which need storage space; 3) women are buying more packaged foods, which take up more shelf area than bulk foods; 4) women are making fewer trips to the food stores, so they often want space to store food for a whole week in the kitchen; 5) women are doing more batch cooking.

This need for more storage space comes at a time when available wall area is being sharply reduced, first by the increasing size of kitchen windows, second by the growing trend to the open kitchen, which either eliminates or minimizes one whole wall.

Things in frequent use should not be stored on shelves or in drawers lower than 20" above the floor or higher than 68", for the housewife will find her work much more tiring if she often has to stoop lower or reach higher. That leaves only 48" for prime storage, and of that 48", 16" is taken up by the open space above the counter top; still more space is made unavailable for storage by the range, oven, and windows above the counter and by the sink and dishwasher below. All this makes it doubly important to 1) make well-planned use of the secondary storage space above and below the optimum levels; 2) waste no wall space between cabinets and appliances; 3) use adjustable shelves to avoid wasting unused height in the cabinets.

Most of us believe the FHA MPRs for kitchen storage are now truly minimum, too low for any but the lowest priced houses. FHA should make sure its appraisers give full credit in higher dollar valuations for appropriate storage provided in excess of its MPR.

k. Color standardization or coordination will soon be needed in the kitchen

The kitchen in color is one of the year's most effective new selling tools, but some of the architects and builders among us view with some alarm the appearance of some 40 uncoordinated colors, with each manufacturer picking his own hues, many of which go very badly with those offered by his competitors. Some of us believe the kitchen cabinet and appliance makers might very profitably follow the example set by the bathroom fixture manufacturers, who got together years ago and agreed on a few basic colors to which all would adhere. Others among us think there is no use trying to get all the manufacturers to use the same colors (it took 15 years to get agreement on what is white). All of us agree that at the very least all kitchen manufacturers should agree on a color scale and a common language of color.

Most FHA offices now give no credit for color in the kitchen.

i. The built-in oven presents a special problem

With present insulation thickness the 24" module will permit an oven big enough to roast a 25-lb. turkey. Many of us believe this is quite big enough to meet the needs of any family likely to be buying a builder's house under \$20,000.

We realize that the trend is to larger ovens, and popular demand has led three built-in gas oven pioneers and several electrical appliance makers to bring out ovens too big to fit in a 24" cabinet. When these products are to be used, special provision will have to be made.

The American Gas Assn. and the National Electrical Manufacturers Assn. should work out standard cabinet cut-out heights for gas and electric ovens respectively for approval by the American Standards Assn. The Cornell research indicates that 40" is the preferred height for the lowest usable position in the oven. Other research indicates that lower heights may be equally satisfactory.

One good use for the space above the oven is to store crackers, dry cereals, and other foods that should be kept dry and crisp.

m. FHA and the banks should change their stand on who can pay for kitchen built-ins—and how

Without two big recent improvements in mortgage finance few builders could consider putting built-in kitchens in their houses:

1. The package mortgage, developed and established by the Editors of *HOUSE & HOME* and *ARCHITECTURAL FORUM*. This makes appliances part of the realty so the home owner can finance them at low interest rates over the 20- to 30-year life of his mortgage.

2. The Housing Act of 1954. This ends the discrimination against quality homes in the FHA mortgage pattern, lets builders ask only \$250 (now \$270) to pay for a \$1,000 kitchen financed by the package mortgage.

Now two more changes in finance are needed to tap the full sales potential of the built-in kitchen:

1. FHA should modify its income requirements to recognize that a family whose fully equipped kitchen is financed in the mortgage for only \$5 to \$7 a month can afford the monthly payments on a much better house than a family that is paying \$25 to \$35 a month for kitchen equipment on short-term credit at 9.6% interest.

2. Commercial banks should stop blocking the use of the package mortgage, recognizing that their opposition is as shortsighted as it is selfish. The true reason for their attack is that they want to hang on to the very profitable business of financing appliances on short-term credit at high interest rates. Actually they stand to get more of this profitable business by letting more builders include built-in package kitchens in their houses, for package kitchens in model homes have proven themselves the No. 1 stimulant for appliance sales. Thousands of families who see these labor-saving built-ins displayed in new houses take out Title I loans to buy them for their own kitchens.

There is no more justification for excluding kitchen built-ins from the mortgage today than there was 60 years ago for excluding such new features as furnaces and bathroom fixtures.



SLIPHER: You might as well use the space above for the equipment and get it out of the way.



PRATT: The top of a 30" cabinet provides a shelf for inactive storage.



SLABAUGH: We must consider both economy of space and economy of cost.



THOMPSON: The women want it.



BOIAN: Under a 28" counter you cannot build in appliances.



PLACE: Some cabinets now are 24" deep, some 24½", some 24-5/16, some 21¾", some 24¾".

n. Manufacturers and builders stand to increase their sales by working together

This is the builders' and the manufacturers' big chance to work together. The manufacturers can help the builders sell far more houses. The builders can help the manufacturers sell far more appliances and far more cabinets.

Low prices and big discounts are not the most important thing manufacturers can offer builders. Equally important are service and trade-ins on the home buyer's present appliances. Most important of all is the selling help the manufacturers can give, for among them are some of America's biggest and smartest sales and merchandising operations, with advertising and promotion budgets running into millions of dollars a year. Every smart builder should want to tie in with this promotion and let the manufacturers not only help him sell his consumer prospects on the kitchen equipment in his house, but also help him sell his banker, sell his mortgage lender, sell his VA and FHA office, sell his own staff, and sell the real estate staff that sells his houses.



CRIGHTON: I think we should all get together on three or five basic colors.



RAMSEY: We must also consider the space and overhang.



DONNELLY: How many builders here have an opinion as to the water heater being in the kitchen at all?



BOWEN: Toe space 4" high and 3" deep sounds logical to me.



JEFFREY: We must plan the built-in kitchen so obsolete equipment will be easy to take out and replace.



MCCRACKEN: There comes a point at which you have to decide on economic standardization.

To kitchen manufacturers 1,000,000 new houses next year may be as important as 50,000,000 old ones, for the new house sets the style and standard for what the public wants. The builders' model house can be the manufacturers' best display room. By definition modernization means making old kitchens like the new ones, and millions of families who first see built-in kitchens in new houses will want built-in kitchens in their own houses too. This makes the new house doubly important to the appliance and cabinet makers.

The number of families who can afford a new house with a sales-appeal kitchen is increasing by leaps and bounds. Next year there will be nearly 500,000 more families who can afford to buy a new \$18,000 house; more than 1,000,000 more families who can afford a new house between \$12,500 and \$18,000. The whole net increase in the housing market is coming among families who can afford a well equipped kitchen, for the number of families who cannot pay \$12,500 by FHA standards is actually decreasing faster and faster.

In the past the new house builders have felt they were not getting proper consideration from the kitchen manufacturers, that they were being told to take a product designed for the old house and like it.

Now for the first time many of the best and smartest manufacturers are designing new products especially for the new-house market, making an all-out effort to give the builders what they want, and offering to help the builders on all their selling problems.

That makes it the builders' turn to meet the manufacturers half way and show it is well worth their while to focus creative effort on the builders' house market.





South Bend, Ind. house by Frank Lloyd Wright



Santa Monica, Calif. house by Charles Eames



Lake Tahoe house by Joseph Escherick



Mill Valley, Calif. house by Wurster, Bernardi & Emmons

Custom houses like these helped popularize the tall living room

Why is the living room getting taller?

One answer: because houses are getting bigger fast—faster, in fact, than their lots (since land prices are going up faster than building costs). So we have more split-level houses with one-and-a-half-story living rooms, and more two-story houses with two-story living rooms on one side (p. 126-129).

There are other good reasons why taller living rooms are becoming more popular. Best reason: contrast makes *any* house more interesting: a small house with a "cathedral ceiling" living room and low-ceiling bedrooms can have an important looking living room (by contrast with unimportant looking bedrooms), and it can have intimate looking bedrooms (by contrast with the spacious looking living room). Result: the whole house is more interesting.

There is no reason why the taller living room need be much more expensive. As carpenters again become familiar with post-and-beam construction, cathedral ceilings are becoming cheaper to build. And as builders become more familiar with split-level construction, they are finding out that it is cheaper to put a simple roof over a split (and thus make the living room taller) than to introduce a lot of expensive breaks into the roof just to save cubage—on paper.

So the taller living room has become one of the most effective (and least expensive) ways of giving a lift to a small and compact house. For examples, please turn the page.

Charlottesville, Va. house by Frederick Doveton Nichols, opposite and pp. 132-134.

Photos: Ben Schnall, © Ezra Stoller, Julius Shulman, Ernest Braun, Roger Sturtevant, Herman Kroll, Rondal Partridge, James T. Strong, George de Gennaro

Production houses like these use the tall living room as a sales feature

*Great Neck, L. I. split level
by Siegel & Rapp, architects & builders*



*Palo Alto house, Joseph Eichler, builder;
A. Q. Jones, architect*



*"Forest Hills" model,
Don Scholz, designer & prefabber*



Sherman Park, L. A. house; Ray Hommes, builder; Edward Fickett, architect.



continued

R. Wenkam



Honolulu house uses wood boards for its ventilated roof ceiling, creates spatial interest and variety by having flat, dropped ceilings in some areas. Vladimir Ossipoff, architect.

How to stretch a one-story living room

Even single-story living rooms can be made to look taller—and they are being made to look taller as “cathedral” or roof ceilings are becoming increasingly popular. Here are two good examples. (*CAUTION:* a recent analysis of roof-insulation problems showed that plank roof cathedral ceilings present the greatest ventilating difficulties of all roof types—see p. 106.)

New Jersey house has tall skylight-ceiling over central living room. All other rooms of the house open into this space. Note that secondary rooms have low, door-height ceilings (a device pioneered by Frank Lloyd Wright) to give the taller living room added dramatic impact. In fact, of course, the living room is only a single story high—but it looks taller by contrast. Edward D. Stone, architect.



Lionel Freedman



Canberra, Australia, house has a split-level plan, with a butterfly roof over it. Result: a story-and-a-half room on the intermediate level. Harry Seidler, architect. (Courtesy: Houses, Interiors, Projects. Published by Associated General Publications, Sydney, Australia.)

Story-and-a-half living rooms

have a pleasant scale

You need about 17' ceiling height for a two-story living room—which is fine so long as that room is correspondingly wide and deep. If it is not, it may easily look like a tall airshaft. Story-and-a-half living rooms, on the other hand, are more appropriately scaled to today's living room dimensions: they can seem pleasantly spacious without dwarfing the people in them. Two good examples:

Connecticut House has a 15' high, glass-walled living room, 30' wide, 40' long. As a result even the shorter wall is twice as wide as it is high, so there is no chance of any airshaft effect. Philip C. Johnson, architect



Roy Flamm

Julius Shulman, Courtesy of Arts and Architecture



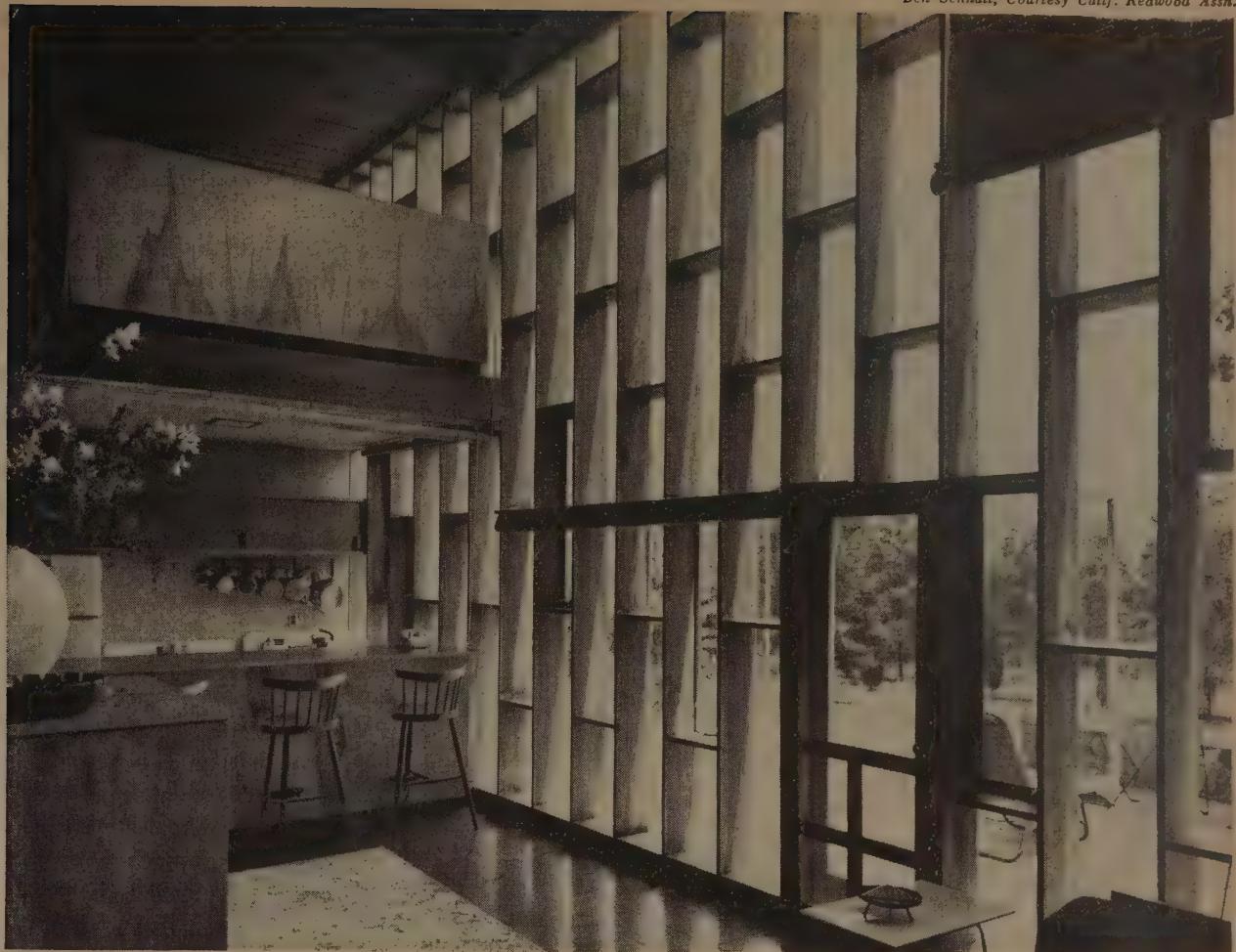
Berkeley, Calif. house has three bedrooms, one bath in the second-story balcony and a dining area, kitchen and laundry under the balcony level. The living room is two stories high, has a shed plank roof-ceiling. Vernon DeMars, architect and owner.



Southern California house has a long, two-story plan for a deep and narrow lot. The two-story living room at one end of this plan is overlooked by a balcony bedroom. Three more bedrooms and two baths are located on the upper level also, away from the living area. Kitchen, dining, and entry are at the left under the low ceiling. Kenneth S. Wing, architect; Edward A. Killingsworth, associate.

Two-story living rooms

One of the commonest two-story living room solutions today is shown in the four photographs here and on pp. 130-135: half the house is on two levels, each a single story high; the other half is a two-story living area. Generally, the upper level (which may hold the bedrooms) forms an open balcony overlooking the two-story living space. This scheme creates an interesting variety of spaces: intimate, low-ceilinged rooms under the balcony, opening up dramatically into a high-ceiling space; and balconies that have visual privacy from below, yet enjoy a view of the airy upper regions of the living room. This works particularly well in two- or three-bedroom houses which require about the same area for bedrooms and bath as for dining area, kitchen, entry and utility room. Logical solution: put those two blocks of rooms one on top of the other. In this way they can "feed" into the two-story living room. The living room should be placed along one side of the conventional-height, secondary rooms. Some of the examples shown here and on the succeeding pages work just that way.



Bucks County, Pa. house uses eggcrate fenestration made of rabbed structural lumber to reduce sky glare through its two-story-high glass wall. As in other similar houses, bedrooms are located in the balcony, kitchen-dining areas below. Jules Gregory, architect.

have greatest space-variety

Tracy O'Neal



Atlanta, Ga. house for Comic Strip Artist Ed Dodd has a 40' long two-story-high living room overlooking a beautiful little valley. In this example, the studio and related work areas are in the balcony, which is also the entrance level in this hillside house. Lower ceiling heights create a pleasant sense of intimacy around the fireplace. The owner's principal interests—trapping, hunting, and the folklore surrounding these pursuits—give this house a very personal character. Willner & Millkey, architects.

continued



Photos: Ben Schnall

Tall living room is at the center of the house. All other rooms open into it, generally through sliding shoji screens like those shown at left. Balcony at right is a study or guest room.



Entry and dining area are on a higher level, directly under a balcony used as a study or guest room. Because you walk into the house under this balcony, the tall living room beyond it appears highly dramatic by comparison.

TALL LIVING ROOMS



Parlor is in an L off to one side of tall living room. Its ceiling is low to suggest a more intimate scale. Exposed concrete block panels fill bays between posts.



Kitchen also opens into central living area, was finished in natural wood veneers in keeping with the living room atmosphere. Dining area in the foreground is separated from the rest of the room by indoor rock garden. Lighting is from plastic skylights above.

This tall living room is an indoor patio

By putting this tall living room smack in the center of the house, Architect Richard Snibbe achieved three decidedly handsome effects:

- He managed to open every other room into the central living area (through sliding screens and similar devices), and thus got each small room to "borrow" space from the tall living room. Result: even the small rooms look big.
- He virtually eliminated all corridors because all rooms feed into the central living area (which is where the family meets anyway). Note, however, that the traffic does not crisscross the living room—it always bypasses the major furniture groupings.
- And, finally, by placing his living area in the center of the house, Architect Snibbe automatically put it under the high point of his pitched roof, thus got enough headroom to accommodate a gallery level (for study or guests) above the dining area. Conversely, he got a tall living room under a roof that looks low from the outside.

The levels of this house are closely fitted to the contours of the land—so closely, in fact, that a large boulder was allowed to protrude through the floor slab to form a pleasant rock garden in the middle of the living area. To light this central space, the architect provided a skylight of double glass fiber panels with an air space between them (see opposite). The principal source of light, however, is the glass end wall of the living room (see next page).



LOCATION: Locust Valley, N. Y.

RICHARD SNIBBE, architect

ADRIAN WEISS, owner and builder

continued



A 5-in-12 roof reaches way down to shelter the terraces that surround the house. Actually, eaves stop 6'-9" above terrace level. Glass end wall faces east and best view.

Low-slung roof belies tall living room under it, fits the house into the Long Island landscape

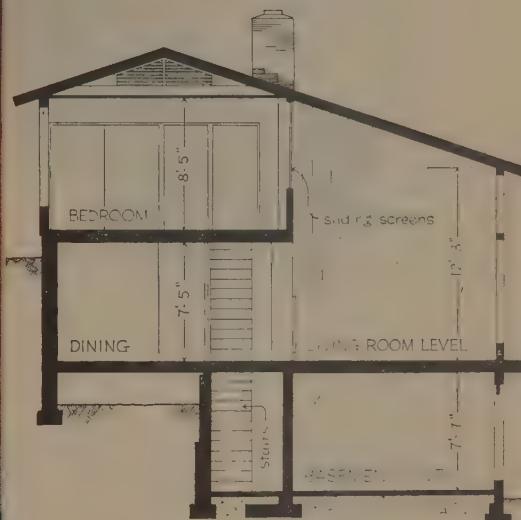


Roof is 96' long, shelters garage and storage spaces at left, living quarters at right. Covered driveway (with skylight) is in the middle. House was built by Long Island Merchant Builder, Adrian Weiss, for his own family.

LOCATION: Charlottesville, Va.
FREDERICK DOVETON NICHOLS, architect
ROGER C. DAVIS, associate
TAYLOR SIMMONS (Knoll Assoc.),
associate on interiors



Photos: Ben Schnall



Section is key to this house, shows how all three levels were fitted into hillside to give each direct access to outdoors: the bedrooms are on grade on the uphill side, the living areas are on grade half way down the slope, and the basement level opens out to the downhill side. A 600 sq. ft. basement contains additional bath, utilities, provisions for future expansion of living quarters. Carport is next to basement, under a large redwood deck that projects out from living area. Left: tall living room with bedroom balcony screened by sliding shoji;

Tall living room makes small Virginia house look big and spacious

This is a 1,400 sq. ft. house, and its 1,400 sq. ft. are distributed over two floors. Yet most people walking into its two-story living room would guess that the house was at least twice that size.

How did Architect Nichols manage to achieve such a sense of spaciousness? In two ways—

1. By opening each of his small rooms into the tall living area to let it borrow space: Result: even the compact 150 sq. ft. bedrooms look spacious when their sliding screens are opened to the living space (see above and next page).

2. And by contrasting the 16' tall living room with a series of small, low-ceilinged rooms on one side. Result: the living room looks even larger and more dramatic by comparison.

The plan is eminently logical: the two-level half of the house has about 450 sq. ft. upstairs and 450 sq. ft. down—just enough upstairs for two bedrooms, bath, storage and stair; just enough downstairs for dining room, kitchen, and a half-bath. In short, there was no need to fill in the upper half of the living room and so it was left open.

Living room ceiling follows 4-in-12 pitch of roof



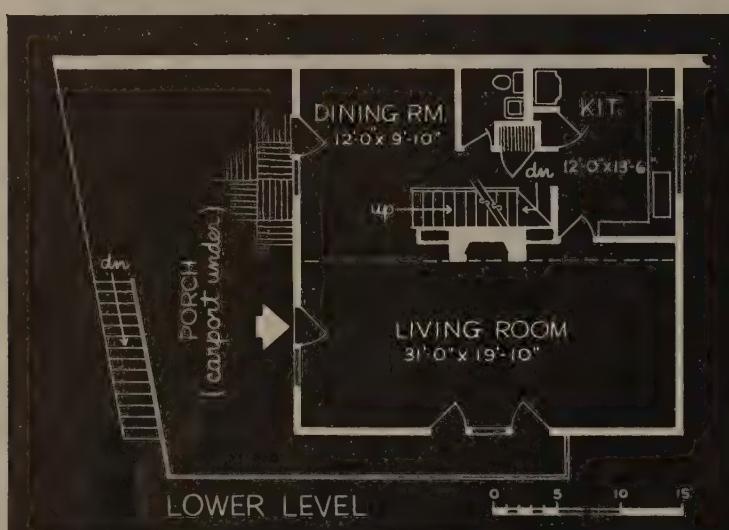
continued



Nighttime areas are located in balcony overlooking the two-story living room. Because of difference in elevation, bedrooms have complete visual privacy even when shoji screens are open—as in this picture. View out through these open screens makes bedrooms appear much more spacious than they really are.



Two levels separate nighttime and daytime areas



Daytime areas are located on main floor, with dining room (below right) and kitchen placed directly under the bedroom balcony. The resulting changes in ceiling height as you walk around on the main-floor level create a degree of spatial interest not often found in small houses. Grille just visible at right is simple and decorative stair "rail."



Remember that this house measures all of 31' x 30' between its outside walls, then look at the picture of airy spaciousness opposite. Ceiling of two-story living room is more than 16' at highest point, slants down toward the northeast to a height of about 12'. Pitch of ceiling changes on the line of balcony—hence the apparent distortion at that point.





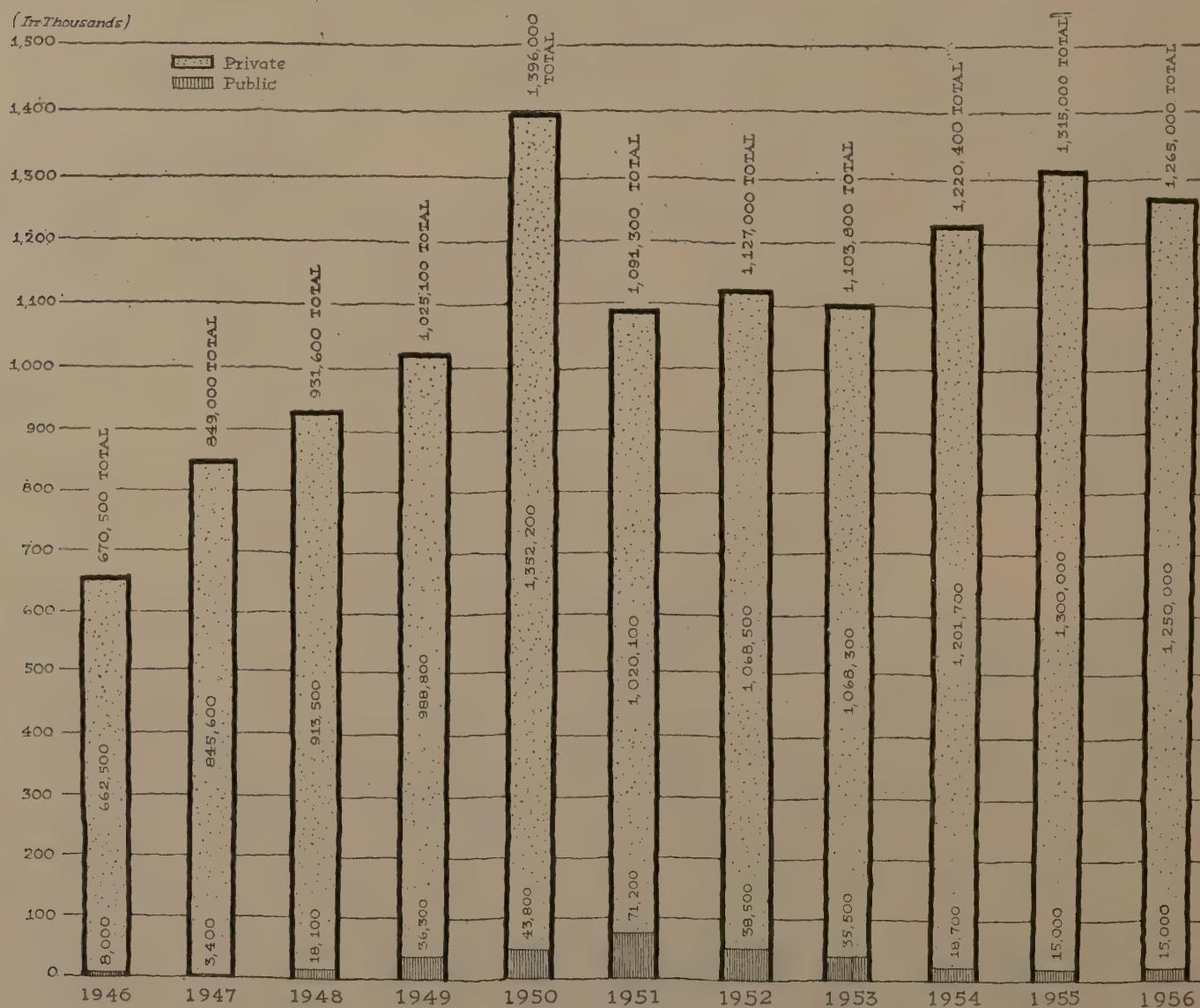
Forecast for 1956: The biggest

This year—1955—will set a new all-time record for the dollar value of private home building. The total will probably reach \$14.6 billion—which is about \$2.5 billion higher than the new record set in 1954, and more than \$3 billion higher than the 1950 record.

Next year—1956—the dollar volume will probably be a little bit higher still.

In private starts 1955 will fall about 50,000 short of the 1,352,000 unit record set in 1950, and next year the number of private starts is likely to fall 50,000 or somewhat more below this year's total. That would be 100,000 below 1950's.

But higher prices are more than offsetting the smaller number of units. According to BLS the average single-family house is now costing about \$2,500 more than in 1950—partly because building costs have gone up faster than the general price level, partly because today's house is bigger and better. This trend to higher prices will continue into next year, because (1) costs are still rising, and (2) more and more builders are upgrading their houses to tap the fast growing market among families whose rising income now lets them afford a much better house.



Sources: 1946-54,
Depts. of Commerce
and Labor; 1955-1956
estimated by HOUSE
& HOME.

Housing starts this year should reach a total of 1,315,000, according to HOUSE & HOME's forecast for the second biggest year on the books. The slight drop expected next

year would still make 1956 third best year. Despite bigger authorization, public housing is not expected to get more units started next year.

dollar volume ever

by Miles L. Colean
Home building's No. 1 economist

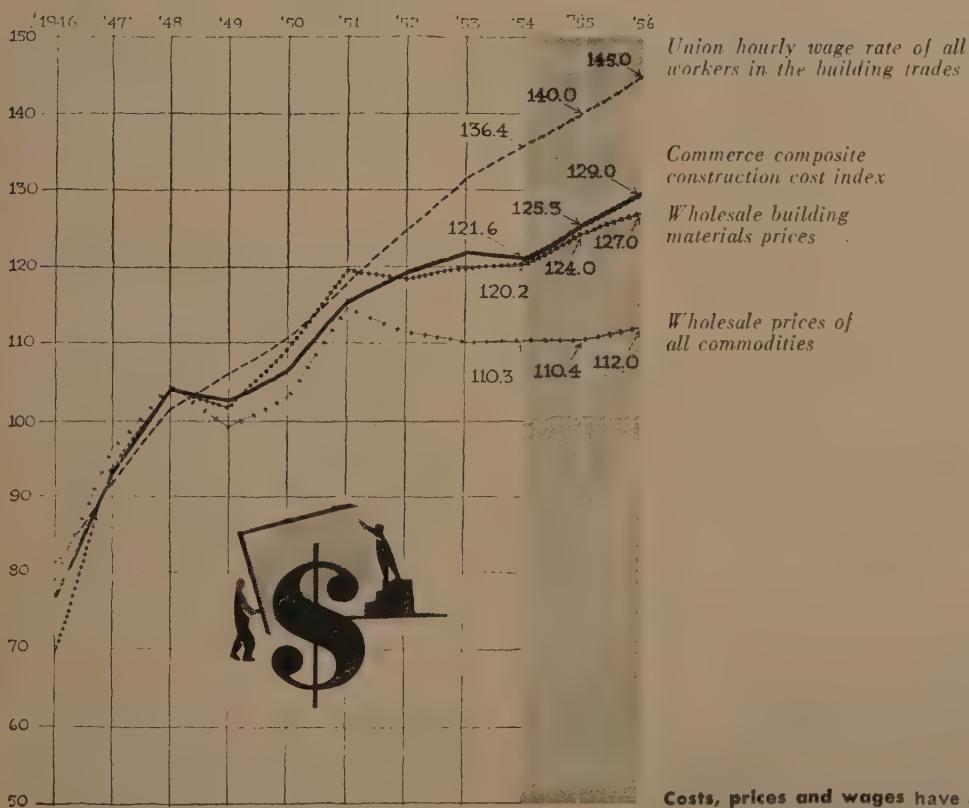


This forecast takes account of the new credit curbs on VA and FHA mortgage terms announced July 29. These changes do little more than follow the market, in which other credit restraints were already making it hard to get no-down-payment, 30-year mortgages. Furthermore, the purchasing power of the average family is increasing rapidly this year, and the VA survey released late in July shows that the average no-down-payment VA home buyer had liquid savings of over \$900 he might have drawn on for a down payment on his house if he had to.

There are many factors in home building's amazing vitality, each of which must now be considered separately in estimating how big a market we will have next year and what kind and price of house will sell. Most of the forces that made for a big market in 1955 will be working again in 1956, but . . .

. . . here are four factors

that will tend to hold home building down:



Sources: 1946-54, Dept. of Labor; 1955-1956 estimated by HOUSE & HOME.

Costs, prices and wages have all soared since the postwar yardstick years, 1947-1949, but union wage rates have zoomed most of all, contributing heavily to the rising cost of construction. Firmly entrenched building unions are expected to continue their rate of gains next year.

1. Credit will be fairly tight as the year begins. This makes a repetition of 1955's early buoyancy unlikely. In contrast, 1956 will have a relatively slow start.

2. New household formation will continue to drag below the 1,500,000 level of 1947-1950 though not as much as is commonly supposed because of the wide margin of error which (for reasons Census is careful to point out) exists in comparisons between year-to-year population surveys. In all probability increase in nonfarm households is still not less than 850,000 and it may be considerably more.

3. Building costs are likely to be on the rise as the year begins.

4. Developed land with water and sewers will be harder to get. The combination of these four restraining forces will slow down the rate of home building expansion, but they are not likely to cut the market below this year's dollar level, for . . .

continued

... here are 13 expansive forces working to sustain or increase demand:

1. Family income is rising fast. The number of families who can afford to buy a house is increasing perhaps twice as fast as the total number of households. Whatever next year's net new household formation may be, the number of families who can afford to pay at least \$12,500 for a better house may well increase by as much as 1,500,000 and the number of families who can afford to pay \$18,000 for a house is likely to increase by more than 500,000.

Next year, following the present round of wage increase and an almost certain tax reduction, the rise in purchasing power will be well above average.

2. Increased saving, another result of rising income, has a double-barreled impact on the market. It gives families the wherewithal to buy—probably to a greater degree than many builders in their obo-phobia (a disease, first identified in ancient Greek builders, characterized by a morbid fear that buyers have no money to pay down) are inclined to acknowledge. It also fills the coffers of the mortgage lending institutions, which are the mainstays of housing credit. In 1956 the accumulation of savings will be greater than in 1955.

3. The number of marriages is still high. This is another reason for suspecting that the Census estimate on net new household formation is lower than the actual figure. In 1954 marriages dipped below 1.5 million for the first time since World War II, and they may do so again. But VA and FHA figures show that comparatively few newlyweds rush out to buy new homes. Most sales are made to couples who have been married several years, so the housing market is still benefiting by the somewhat higher number of marriages from 1949 to 1953 and the very high number from 1945 to 1948.

4. Migration from farm to city. An abandoned farmhouse is no help to people looking for urban or suburban housing. Since 1950 the number of farm households has been falling about 150,000 a year on the average.

5. Migration from state to state. Each year about 5 million persons move across state lines. Most of this migration is to fast-growing states where there is proportionately little old housing available. A house left vacant in Portland, Me., will not be much help to a family looking for a place to live in Portland, Ore.

6. Migration from city to suburb. About 24 million people move each year within the same state, most of them from an inlying to an outlying location. This may leave an old house or an apartment vacant downtown, but it calls for one more unit on the outskirts.

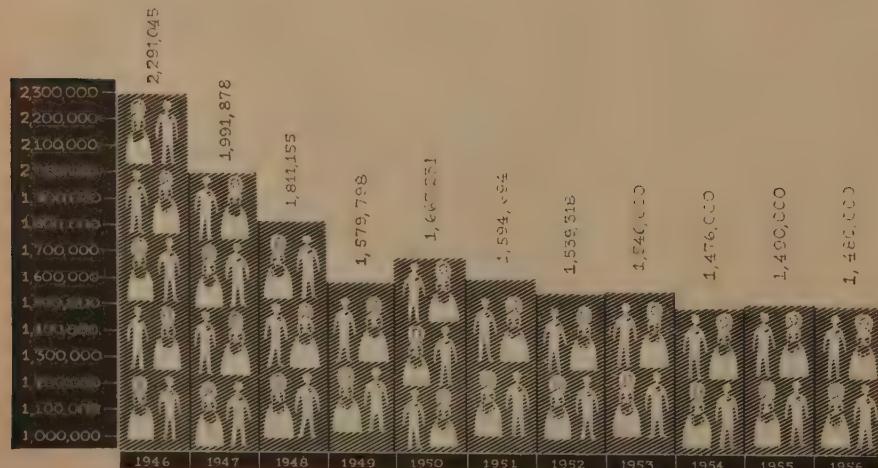
7. The continued high birth rate. More and more families have third and fourth babies. These families are crowding themselves out of their present quarters and so increasing the demand for houses planned and located to meet the needs of children.

8. Fewer households are being eliminated as a result of divorce or death. Greater job opportunities, higher wages, wider home ownership, social security, pensions, and annuities (not to mention alimony payments) are all making possible the independent occupancy of dwellings units by persons who, only a few years ago, would have been forced to double up.

9. The change in the market for housing for Negroes. This change has two aspects; (1) a spectacular improvement in income and, (2) a great migration from farm and small town to central city. This has become a factor of great significance. It is rapidly overcoming the remaining legalized and social barriers to the expansion of Negro areas. It has not yet involved any substantial amount of new housing construction, but it is providing a great new supporting force in the good used-house market, which can be almost as important to the sale of new homes as an active used-car market is to the sale of new cars.

10. More demolitions, resulting from the urban highway program and the slow but sure advance of the slum elimination program. This destruction, by eliminating, as it usually does, the poorest housing units, not only reduces total vacancies but also prevents an overhang of too-cheap housing to imperil the market in time of adversity or satiation.

The number of marriages is still high



Source: 1946-54, U. S. Dept. of Health, Education and Welfare; 1955-56 estimated by House & Home.

11. Technological change, pushed by a matured, market-conscious home building industry, is augmenting housing demand in the same way that it has long been a major element in automobile demand. Striking shifts in style and design to attract and please the eye and inflate the pride of ownership; greater convenience in arrangement and more labor-saving devices to cope with the extinction of domestic help and to accommodate the job-holding wife; more efficient building methods to counter rising costs of materials and labor; better quality to reduce maintenance; all these create dissatisfaction with the old—a prime spur to demand in a prosperous economy.

12. Mortgage credit, while not likely to exhibit the ease that flowed from central banking policies designed to promote recovery from mid-1954 to early 1955, will be in ample supply to support a bigger volume of building and other investment than in this year. Mortgage money is likely to remain tight into the early months of 1956, but even if monetary policy is not shifted to the side of relaxation between now and January, savings accumulations by the early months of the year should bring a substantial increase over the present availability of mortgage funds.

13. Salesmanship. HOUSE & HOME believes that aggressive salesmanship, in a year of substantially rising incomes and growing good feeling about the state of the economy and the future of the world, can largely overcome the drawback of having to put some cash on the barrel head. There are still millions of families who are living in houses that are not up to the standards they can afford. HOUSE & HOME's estimates may be colored by its confidence in the industry's ability to overcome difficulties; but it is sure its confidence is not misplaced.

All this adds up to another big housing year in which the building industry in 1956 will be able to start as many as 1,250,000 new family units, or about 95% of its 1955 performance. At this point, indeed, were it not for the uncertainties in the credit situation, there are as many reasons for believing it will equal 1955's number of new starts as there are for concluding that it will fall behind that high level of activity.

The year 1956 will be bigger and better

The characteristics of the 1956 houses will continue to follow trends that are now well-established: more attention to style and quality, more space, more labor-saving and comfort-making equipment—in other words, a general upgrading of the model, whatever its price class. On the average, sales prices will be somewhat higher, reflecting increases in basic costs but more so the improvement in basic value. Competition among builders will be keen and, especially with no such easy credit to rely on as was available last spring, selling will have to be vigorous.

Next year's private residential activity will be even more devoted to single-family house construction than in 1955, when less than 10% of the total number of new units was in apartment buildings and probably no more than half these in elevator structures. Outside the area of public housing, apartment construction is more and more becoming a mere incident rather than a real feature of the building program. The suburban trend will continue in 1956 despite greater difficulties in obtaining land adequately provided with sewer and water. Urban renewal, aside from its influence in stepping up repair and maintenance, will, for another year at least, have little impact on the location or volume of new residential building.

The housing market as a whole remains in good shape. After adding more than 10 million houses to the supply within a decade—equivalent to about a third of the number of nonfarm dwelling units standing in 1945—the effective vacancy rate (units actually available for either sale or rent) has risen from 1.6% in 1950 to 2.2% in 1955. Mortgage debt, while large, appears to be still of manageable proportions, especially in view of its amortized character and the more rapid than scheduled repayment (about 10 years on the average).

What we have witnessed and shall continue to witness is the effect of a people hungry for better living and the financial ability to get what they want. House building remains the prize demonstration of the dynamic quality of today's—and tomorrow's—economy.



Krist Hubert



S. L. Campbell



S. E. McCrory



G. A. Fraser



D. R. Hamlin



R. A. Tyler



Paul H. Wolf



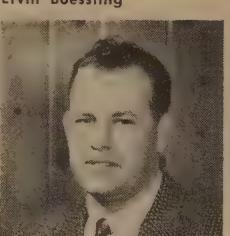
Ervin Boessling



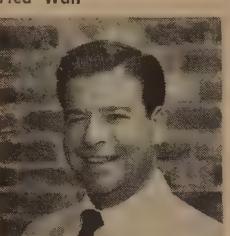
Fred Wall



Wayne L. Beckner



Sam Johnson



A. B. Huvard



Earl M. Gilbert



V. L. Yarbrough



J. Pabst



W. K. King



Frank Ogren

*Hubert, Campbell, Beckner
portraits by Karl Kirk*

This is the month to captivate a captive audience. For September is the month when millions of home-buying prospects (whether they already own a home or not) will parade through thousands of new houses looking for bigger and better things in living. September is the month when you can educate them to fresh design, greater living pleasures and the advantages of a spanking new house.

What's more, this is the month when you can take a public opinion poll of buyer likes and dislikes at your own doorstep.



Houston's home builders lead

Look what the Houston home builders did. Late this spring 23 Houston builders presented the Houston public with a wealth of new ideas in 30 new houses. The exterior designs ran the gamut from early American to advanced contemporary. Yet each of the houses had an interior as up to date as this month's calendar.

All 30 houses were fully landscaped. All 30 houses were air conditioned. All 30 houses were completely furnished. All 30 houses flanked a trim-looking cul-de-sac street in Houston's middle-bracket subdivision, Meyerland.

The show was a sensation even by Texas standards. Over 75,000 visitors toured the houses in the two weeks they were open. Thousands had their first chance to experience in person what magazines call indoor-outdoor living (every house had some provision for outdoor living; some had as many as three patios). Thousands who had seen glass-gable-end houses only in magazines got a direct emotional experience from such an exciting architectural feature. Thousands more were able to move around in an open-plan house and "feel" how it worked. All were exposed to sales-stirring modern conveniences: sliding doors, built-in appliances, acoustical materials, resilient floor coverings, washable wall surfaces, convenient laundries, play space for children, second living rooms, light engineered rooms, adequate wiring, bigger and better bathrooms. And more space and more color.

The Houston home builders were not content with showing the same stand-pat designs and features that have meant sure-fire sales in the past. To their everlasting credit they packed their houses—literally to the rafters—with more built-in merchandising features than exist on any other single street in the US today.

These builders know what it takes to sell houses. They set a stiff pace for the rest of the country to follow.

continued

Photos: Edward A. Bourdon



off 1955 Parade of Homes

Of the 30 houses in the Houston Parade,
22 appear on the next 11 pages with their price tags.
Can you guess which sold in the first six weeks?
See p. 151 for the answers.



From houses like this . . .

1. Southern colonial was designed by Architect Lucian Hood for Builders J. Pabst and Wilbur Moore of Blue Ribbon Homes.

Price: \$26,000 Sold Unsold



3. Tudor style marks house designed by Architect Matt Howard and built by G. A. Fraser. Like majority in Parade, house is L-shaped.

Price: \$24,900

Sold

Unsold



4. Early American "ranch" by Architects Dunaway & Jones, was built by S. E. McCrory. Facade is foreshortened by strong vertical posts.

Price: \$24,500

Sold

Unsold



5. Low-slung contemporary house designed by Architect Thompson P McCleary has bland, uncluttered appearance. Builder was Earl Gilbert.

Price: \$24,500

Sold

Unsold

... and every design in between

That was the Houston '55 Parade of Homes



...to houses like this...

2. Flat-top structural-steel contemporary house was designed by Architect Burdette Keeland for Builder W. K. (Buck) King.

Price: withheld Sold Unsold



6. L-shaped ranch house was designed by Brooks & Brooks for Builder Fred Wall who builds quality houses for growing quality-house market.

Price: \$27,000

Sold

Unsold

7. Glass-gable-end modern by Architect James Johnson has view windows at sides and rear, transom glass in front. Builder: Frank Ogren.

Price: \$27,500

Sold

Unsold

8. Old English design with a modern twist (sliding glass doors to yard) was designed by Christiansen & Cannata for B-K Builders.

Price: \$28,750

Sold

Unsold



9. Panelized facade accents fenestration in contemporary house designed by Architect Matt Howard for Builder G. A. Fraser.

Price: \$23,750

Sold

Unsold

10. Courtyard between house and garage is screened from street in contemporary-style house built by V. L. Yarbrough.

Price: \$26,500

Sold

Unsold

Price: \$27,500

Sold

Unsold



Outdoor living was dominant feature of all Houston Parade houses

Builder: Krist Hubert; Architect: L. B. Wooters





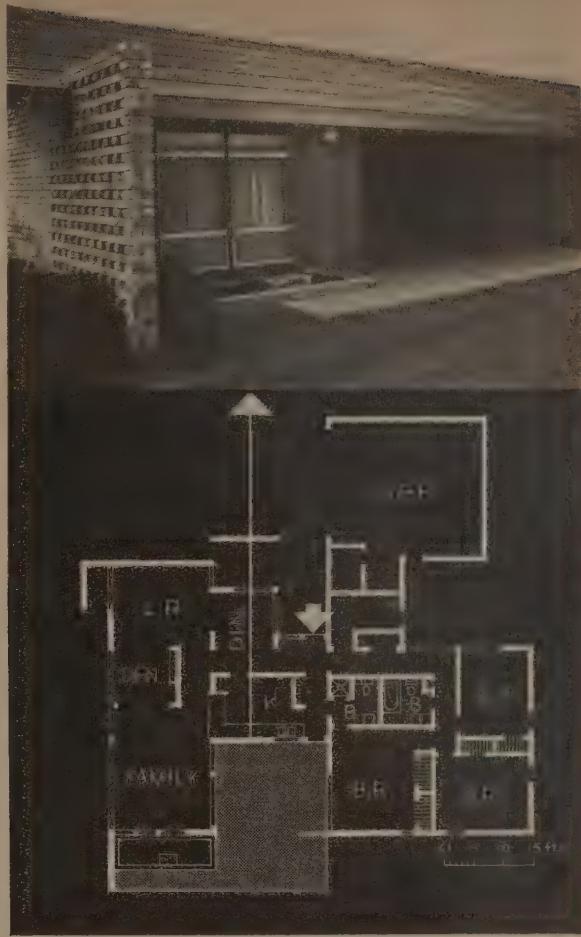
... to the front

12. Huge sliding glass door of front living room opens onto well screened terrace with planted border. Family room, in rear of house, has its own patio. Entry to kitchen from garage is covered (see plan).

Price: \$24,500

Sold

Unsold



at the rear

13. Virtually surrounded by garage, fencing, family or second living room and bedroom wall (out of photo opposite at left), this patio becomes a private retreat in the great outdoors. Vertical redwood adds soft background.

Price: \$35,000

Sold

Unsold



Builder: W. K. (Buck) King; Architect: Burdette Keeland

on the side

14. Family room overlooks planter beyond perforated brick wall and opens onto partially covered terrace which can be used easily for outdoor dining because of its proximity to kitchen and informal entertainment room.

Price: \$27,500

Sold

Unsold

in the center

15. Looking in on itself as much as it looks to the outdoors this U-shaped plan rims a central patio which is protected overhead by a latticework of steel. View in photo is toward kitchen and family room.

Price: withheld

Sold

Unsold

continued

Every house has a family room, most of them close to the kitchen

Indoor-outdoor site of rooms in this house orients its family room toward the side and back (see plan, p. 145). Sliding glass doors open onto outdoor terraces or patios in almost every house. The public loved them.



Builders: Boessling & Kuehn of B-K Builders; Architects: Christiansen & Cannata



Builder: Paul H. Wolf; Architects: Womack & Mount

Family room doubles formal living area

Folding doors permit family room (left) to open up to open-trussed formal living room (below). As in most Parade houses open plans were first tried in kitchen and family or informal living areas.



Builder: Fred Wall; Architects: Brooks & Brooks



Counter is only barrier

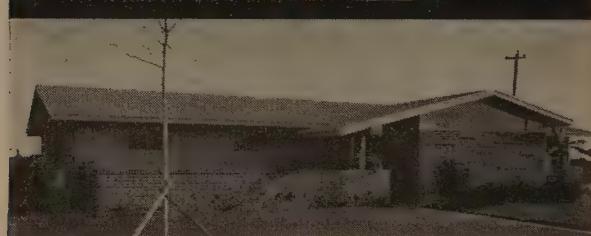
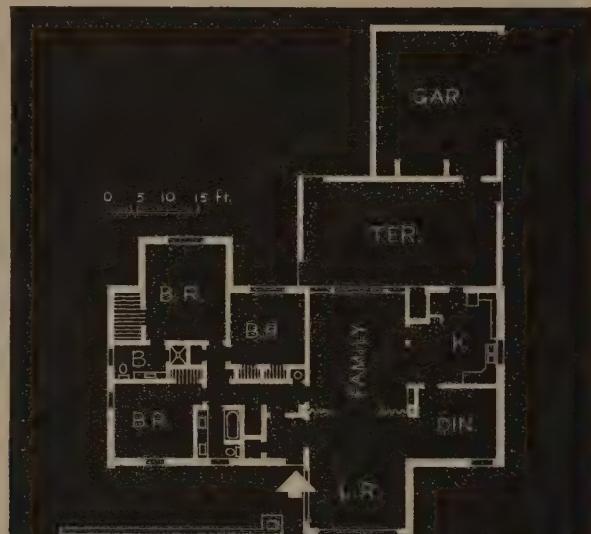
Otherwise kitchen is open to family room. Looking over the counter separating den or family room from kitchen you see numerous built-in appliances typical of most kitchens in the Parade. At right background are pull-down range units, close to sink.

continued



**Builders used L, H and U plans,
put two baths
and a family room in every house**

Builder: Paul H. Wolf; Architects: Womack & Mount



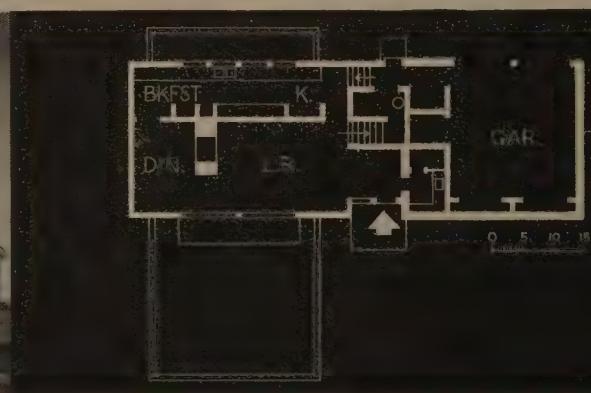
How to plan privacy for a corner lot

Price: \$29,750

Sold

Unsold

Builder: Alan B. Huvard; Architect: William R. Jenkins



First split level in a Houston subdivision

Price: \$25,450

Sold

Unsold

20. With only 640 sq. ft. of slab on ground this split level provides over 1,700 sq. ft. of living area on two levels. Plan uses little space for corridors, has two-story living room, balcony overlooking it.



Screened patio runs almost full length

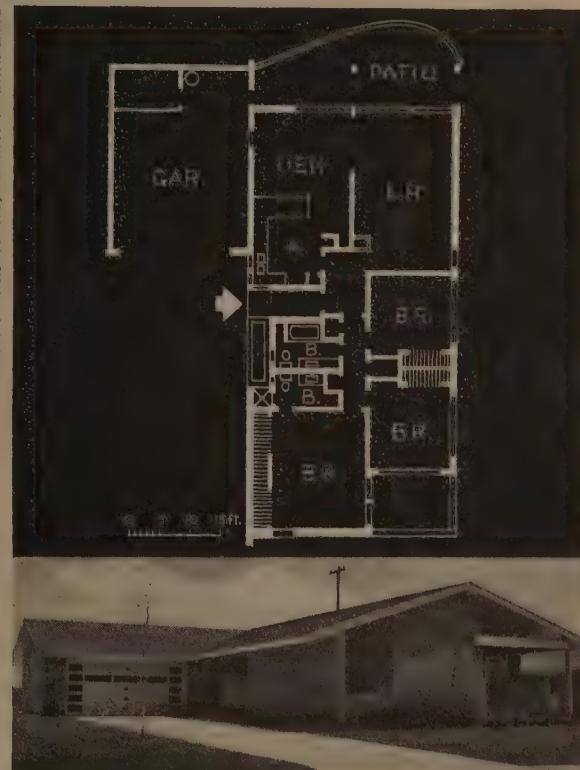
of house with narrow end to street

16. Huge patio adds space equal to almost a third of the enclosed area of this house and the living and family rooms are oriented toward it. Kitchen is completely equipped with built-in appliances.

Price: \$26,000

Sold

Unsold



Entrance is at heart of this house

Price: \$26,500

Sold

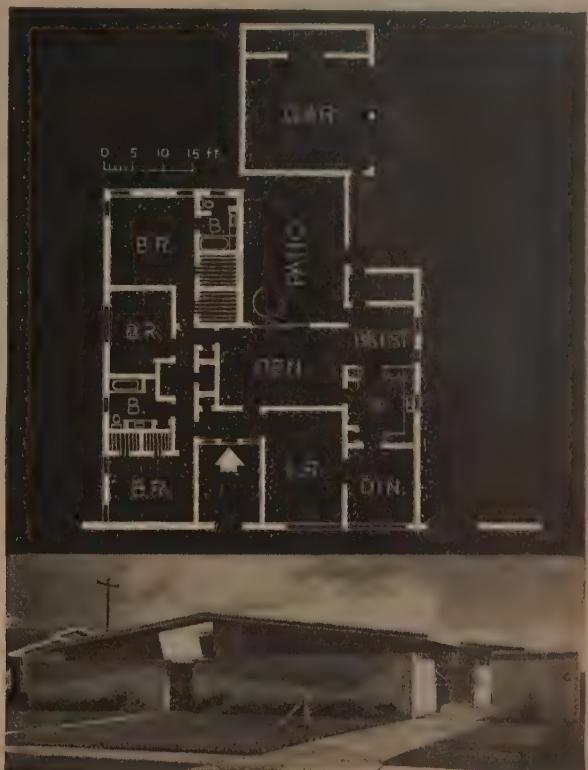
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18. Central entrance to this straightforward house literally traffic plans it for greater living ease: living areas are to rear, bedrooms up front. "Porch" planting area softens brick wall facing street.

Price: \$35,000

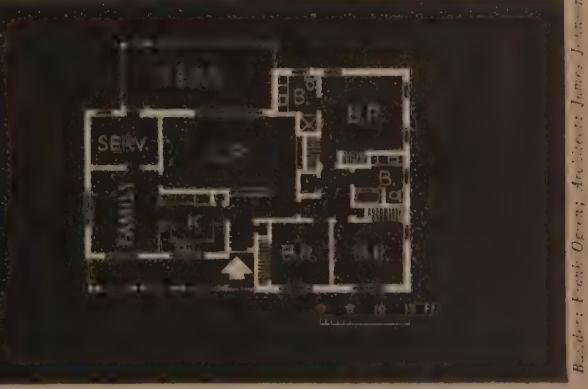
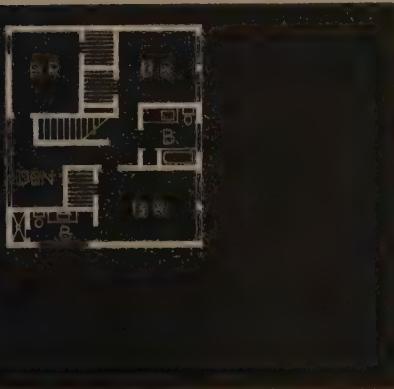
Sold

Unsold



H-shaped house is loaded with built-ins

19. Kitchen flanked by a family-dining area and formal dining room has built-in refrigerator, freezer, oven, range, dishwasher and garbage disposer. All bedrooms have built-in storage drawers behind sliding doors.



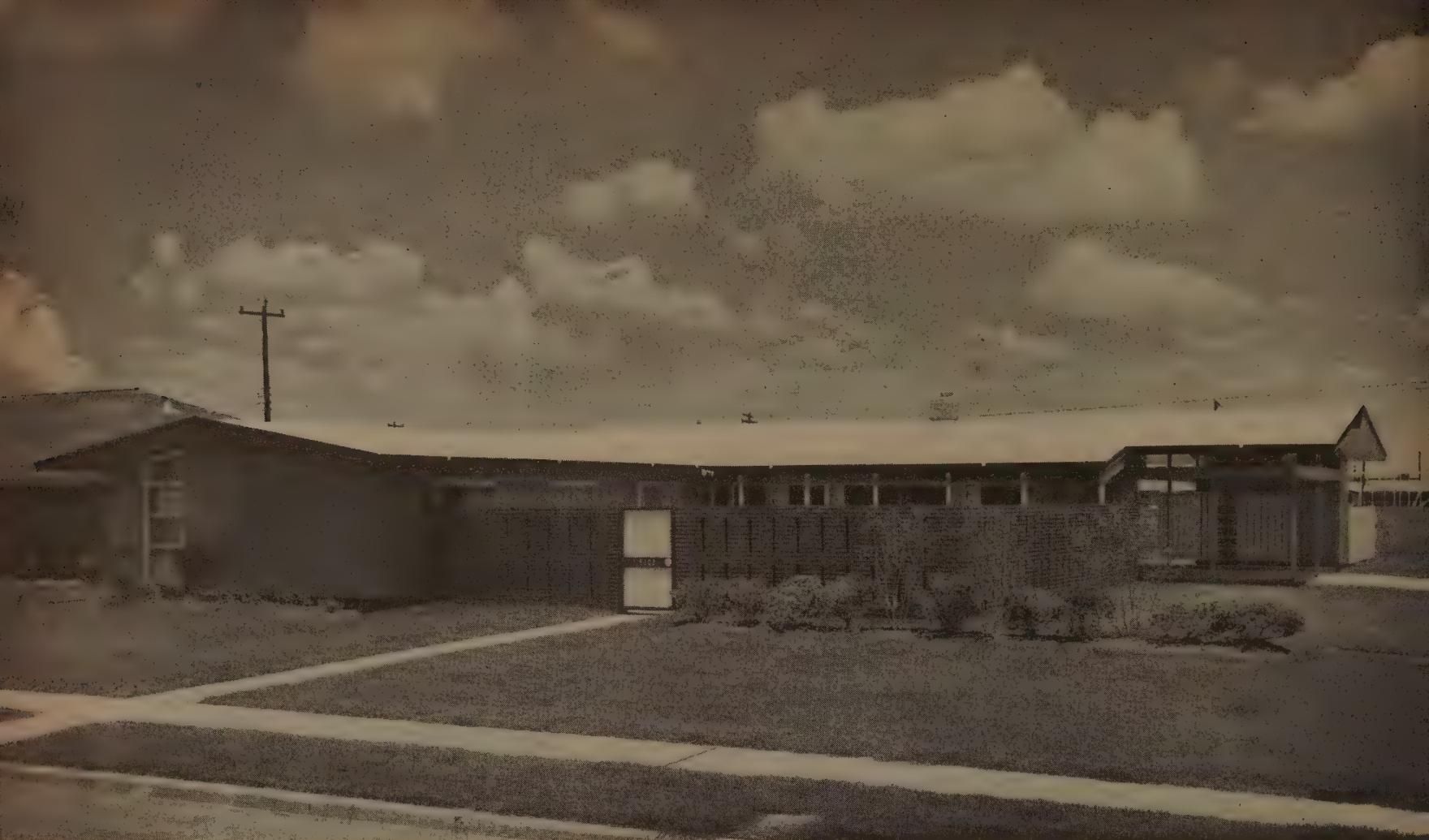
T-shaped plan for a traditional house

Price: \$26,500

Sold

Unsold

21. Dining area in this house was enlarged to make it a family-sized all-purpose room off the kitchen. Entry corridor separates day- from nighttime areas effectively. Bedroom corridor wastes no space at all, has closets.



Designed by Edmund Langwith and Robert King,
with Wilson, Morris & Crain, AIA, consulting architects

Biggest eye-catcher was the Association's own house

The three who lead the Parade



Association president
S. N. Adams



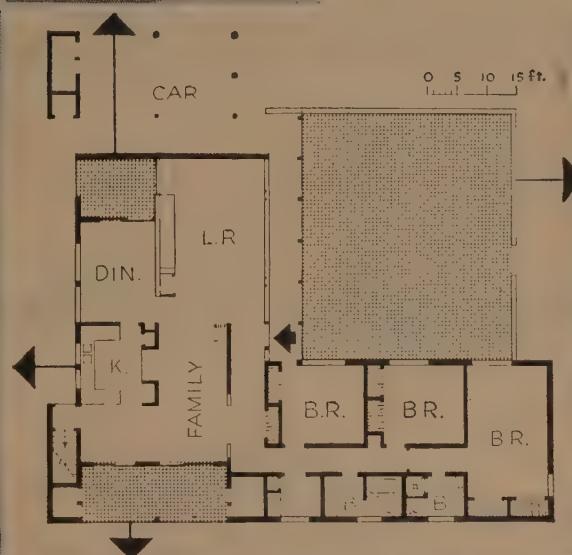
Parade chairman
Robert W. Clemens, architect



Association executive officer
Conrad (Pat) Harness

Three good-looking outdoor areas

and a sales-making kitchen



22. Outdoors is invited into the dining area which overlooks planting area but is fenced for privacy (photo above plan). Outdoor living area in front is well protected with handsome fence (above). L-shaped family dining nook and family room is close to covered terrace, a standing invitation to dine outdoors even in wet weather (left). Kitchen convenience is brightly dramatized by a skylight over entire ceiling (photo left of plan). Floors are flagstone for easier maintenance; counters have hard vinyl surfaces. Appliances are latest in built-in equipment.

Price: \$32,500

Unsold

Sold

Here's the sales record of the 22 houses.

What was your score?

- | | |
|-----------------|------------------|
| 1. Sold | 12. Sold |
| 2. Sold | 13. Sold |
| 3. Sale pending | 14. Sold |
| 4. Sold | 15. Sold |
| 5. Sold | 16. Sold |
| 6. Sold | 17. Sold |
| 7. Sale pending | 18. Unsold |
| 8. Sold | 19. Sold |
| 9. Unsold | 20. Sale pending |
| 10. Sold | 21. Unsold |
| 11. Sold | 22. Sold |

The builders and the savings & loan associations need each other— it's high time they got together

HOUSE & HOME has gone on record not once but many times that FHA is the best thing that ever happened to the home buying public and the home building industry.

FHA has raised housing standards from coast to coast. FHA has brought billions of added dollars into the mortgage market and let mortgage money flow freely across state lines to places where housing need was great and housing credit was scarce. FHA has demonstrated the safety of 90% and 95% loans. FHA has let home building offer the easy terms that every industry has found essential to volume selling and volume production. FHA has enabled home building at long last to enter the industrial revolution and begin sharing in all the savings of quantity production and standardization.

Despite all that has happened in the past eight months we still think FHA is the best thing that ever happened to the home buying public and the home building industry.

But—

Now and for years to come our big new need is a second big source of high-percentage loans

- ... a handy source that will serve small builders as well as big and let more small builders offer the same easy terms as their bigger competitors;
- ... a standby source that will meet our needs when 4½% money cannot be found;
- ... an independent source that will not always be exposed to political pressures.



NAHB President Earl W. Smith

Ever since the war too many builders have had too many of their financial eggs in one basket; i.e., they have had to rely on government-insured or guaranteed loans to finance more than 80% of the houses they build for sale to the mass market. Most of the time this one-basket system has worked pretty well, but let's not forget that:

1. There are thousands of builders whom FHA has never served

Only some 15,000 builders a year make use of FHA. Perhaps the others find its processing is too slow and complicated for one or two houses at a time; perhaps they have no easy access to the big lenders who put up most of the FHA money; perhaps they are out for some other reason.

We need some way to let the builders who are now on the outside looking in share in the benefits FHA has brought to a comparatively small group.

2. There are many times when FHA-VA with their inflexible interest rate and their political controls cannot meet our needs. For example:

- a. The FHA-VA crisis of 1951, when the Federal Reserve pulled the plug on government bonds and advance commitments for 4% and 4½% FHA-VA money vanished overnight.
- b. The FHA-VA crisis of 1952, when Fanny May had to come to the rescue with \$2 billion of printing-press money.
- c. The FHA-VA crisis of 1953, when the new 4½% rate proved too little and too late and discounts soared as high as 9%.
- d. The FHA-VA crisis of 1954, when FHA fell headlong out of grace and HHFA vied with the Senate probbers to see which could do most to discredit and demoralize it.

How many more crises do we need before the home builders face the truth that FHA is not always a perfect instrument?

As long as home building keeps so many of its eggs in the FHA-VA basket we will always be in danger of political attack. As long as we rely entirely on inflexible interest rates fixed by government edict we will have a feast-or-famine economy, with money sometimes so plentiful we hardly know what to do with it and sometimes so scarce it costs unconscionable discounts.

3. Before long home building will need nearly twice as much new mortgage money each year as the previous all-time new money record of \$11 billion. To finance the two million plus new homes we will have to build all through the sixties—plus all the other home mortgage transactions—will require the staggering total of more than \$50 billion, of which less than \$30 billion will come from mortgage pay-offs at the slowed-down amortization rates for which the home builders have been fighting so hard (and perhaps so unwisely). That means we will need to *increase* the outstanding total of mortgage loans by more than \$20 billions a year. To find any such staggering sum of new money the home builders will have to tap every possible source.

continued

The one best place to look for this help is the savings and loan associations

These associations are already the biggest single pool of mortgage money, with \$25 billion in housing loans at the end of '54, compared with \$15.4 billion for the life insurance companies, \$9 billion for the savings banks, \$13.3 billion for the commercial banks. They are also the fastest growing mortgage money pool, with their assets shooting up faster than \$5 billion a year. They are as much a part of our industry as the builders themselves, for unlike the FHA lenders they cannot run off to other investment fields whenever they can find a place to put their money at a little higher interest.

In brief, the savings and loan associations have everything to offer the builders except two things:

1. They are not yet able to offer the low-down-payment financing that every big industry has found so essential. Fortunately, no new legislation is needed to let the Federals make 90% loans—only a change in Home Loan Bank Board regulations. And here is the big news: The US Savings & Loan League is already studying the program under which the British Savings Societies have been making 90% insured loans for nearly 20 years *with no help at all from the government*. Their losses have been so small that the British Savings Societies have now decided to offer 95% loans on the same basis—a basis which calls for much lower insurance premiums than FHA charges here.

2. They are seldom big enough to handle the financing needs of the big builder with their own resources. Fortunately this problem is also well on the way towards solution, partly because they are getting bigger so fast, partly because they are quietly developing their own ways to get money from the big savings and loan associations in the money centers to the savings and loan associations in places where mortgages are most needed.

Already the savings and loan associations are serving thousands of builders. They will be able to serve thousands more when these two road blocks are removed.

Soon they will need the builders as much as the builders will need them

They will need the merchant builders because they will need a big new field in which to invest their money, and they are forbidden by their charters to put their money into anything but mortgages and government bonds.



USS&LL President Howard Edgerton

Builders and savings associations have everything to gain by getting together now

Ever since FHA was started, the organized home builders and the savings associations have kept up a running fight. The savings associations have seldom passed up a chance to snipe at FHA and the new competition it brought into the field. The builders have fought back hard and constantly; even this summer they went out of their way to urge Congress not to give the savings associations what they most want—the independence of the Home Loan Bank Board.

None of this sniping has done either the builders or the savings associations any good. In fact, a more foolish family feud would be hard to imagine. Instead of trying vainly to destroy FHA and so eliminate its competition by law, it would have been much smarter for the savings associations to profit faster by FHA's example and experience. Conversely, it would have been much smarter for the builders to remember that a man with money to lend on 24 hours' notice is always worth cultivating.

Fortunately, leadership in both NAHB and USS&LL has now passed to men of peace

The Home Builders' 1955 president is making it his No. 1 objective to end the era of crisis.

The new leaders of the savings associations have made a dramatic about face to look forward boldly and constructively to the 2,000,000-house-a-year markets of 1960 instead of looking backward longingly to the higher interest rates and shorter amortization of the twenties. They believe their members have far more to gain by teaming up with other groups in our industry than by fighting for legislation that will handicap someone else. Already they have made notable progress towards closing the breach with the National Savings and Loan League, which split off 15 years ago over the parent's negative attitude towards FHA. They are well on their way towards getting together with the mutual savings banks, persuading them that the mutuals might be smarter to take advantage of the new freedoms won by the savings associations instead of fighting to impose their own unreasonable restrictions on their new competitors.

Now the time is ripe for the NAHB and the USS&LL to end their feuding, reconcile their differences, and begin working together to their great mutual advantage.

The mortgage bankers have nothing to fear from this drawing together of the builders and the savings associations. FHA and VA will always be able to offer slightly lower rates than conventional lenders, and anyhow they will have more business than they can place to finance the home building boom of the sixties.

The builders and the savings associations have everything to gain and nothing to lose by getting together—the sooner the better.

4 MORE WAYS TO BUILD BETTER FOR LESS

This is the sixth of a series of cost-cutting articles appearing regularly in HOUSE & HOME

46 Make your slabs self-curing

© Gatings



Clemens

Houston Architect-builder Bob Clemens has found a better and cheaper way to cure slabs in the torrid, dry Southwest. Builders who suffer from too-quickly-dried slabs can profit by his suggestion: use polyethylene film. Clemens finds he can cover a slab in a few minutes, with great labor savings over the use of wet sand or continuous spraying.

Cost of the 2,000 sq. ft. film is about \$50; it can be reused approximately 30 times. When lifted, the film leaves a clean and well-cured slab.



Film is kept flat with planks and a few shovelfuls of sand

47 Plaster ground cuts trim time in half

Builder Anthony Caceamo of Wappingers Falls, N. Y. uses a sturdy plywood ground to get a better plaster job faster. The plywood ground is cut to exact size of the finished door jamb, and is reused many times after an initial oiling. Advantages are it: 1) cuts time required for placing grounds 75%; 2) insures plumb walls on both sides of door despite warped studing; 3) is quickly removed; and 4) makes trimming of doors much easier.

Caceamo claims 50% of labor time is saved installing trim. The trim lies flat against the rough studs, requires no planing or shimming. The result is a neat job without gaps or bulges.



Grounds plumb both walls at once. . . . leave clean, flush opening

48 King-size storage door

saves \$16 per house

This oversize door saves one builder \$4 per unit, a total of \$16 on the four doors he uses on storage space in the carport. The entire cost of the door installed is \$16.75. Architect Charles Montooth specified standard 2'-6" x 6'-8" flush doors before, is now able to bring the door up to roof framing, eliminating cripples. The 4' wide doors also permit vertical framing members to be spaced on the 4' building module.

The door is a simple sheet of 3/4" plywood, stiffened with shelves on the inside. Montooth finds the continuous (piano) hinges are a sales asset that add prestige to the house. Although they cost somewhat more than butts, they keep the door rigid and require no mortising.

(Note: Some builders will be able to use a full-size 4' x 8' sheet of plywood.)



Montooth

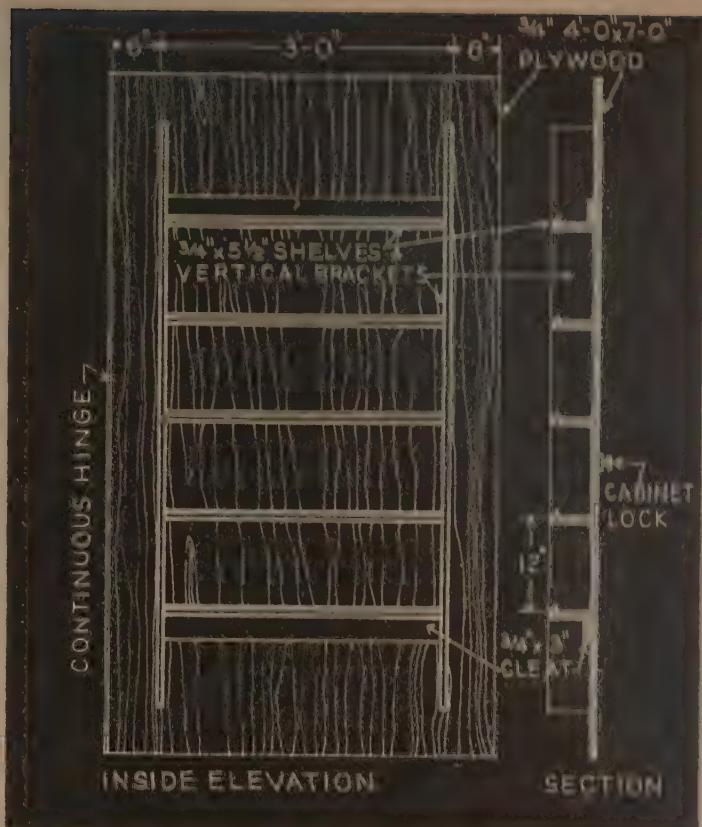


Photo courtesy Sherman Products, Inc.

49 "Palletizing" brick pays off

Jake Kutchai of suburban Detroit saves builders as much as \$25 per house by delivering brick on pallets, placing the pallets where they are needed around the operation.

His palletizing system works like this: he loads 630 to 720 bricks on pallets directly from the freight car, then loads the pallets on a truck for delivery. At the site he unloads them at strategic points within reach of the masons.

Bricks need not be hauled in a wheelbarrow from a delivery dump at the street, a labor saving of about \$7 per thousand brick. Fewer mason's helpers are needed. And because brick is not dumped, a 3 to 5% saving in breakage results.



Kutchai



... places them conveniently around the job

\$50 for each new way

HOUSE & HOME will pay \$50 to any architect or builder who sends in a new way "to build better for less" that is published in this department. Contributors must include all the needed pictures, drawings and facts, and of course the editors' deci-

sions on what suggestions would interest readers must be final. HOUSE & HOME is always particularly pleased to publish a new idea developed by a small builder that big builders will have to borrow and copy!

Send your suggestions to: H&H, New Ideas Editor, 9 Rockefeller Plaza, New York 20, N. Y.

SHADING DEVICES

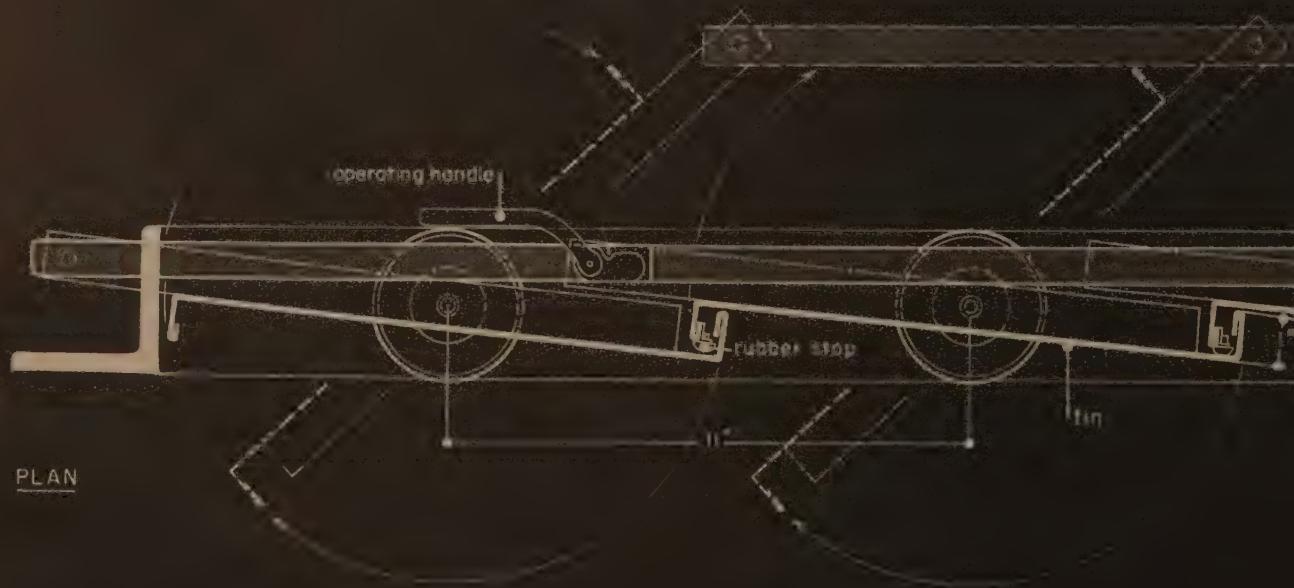
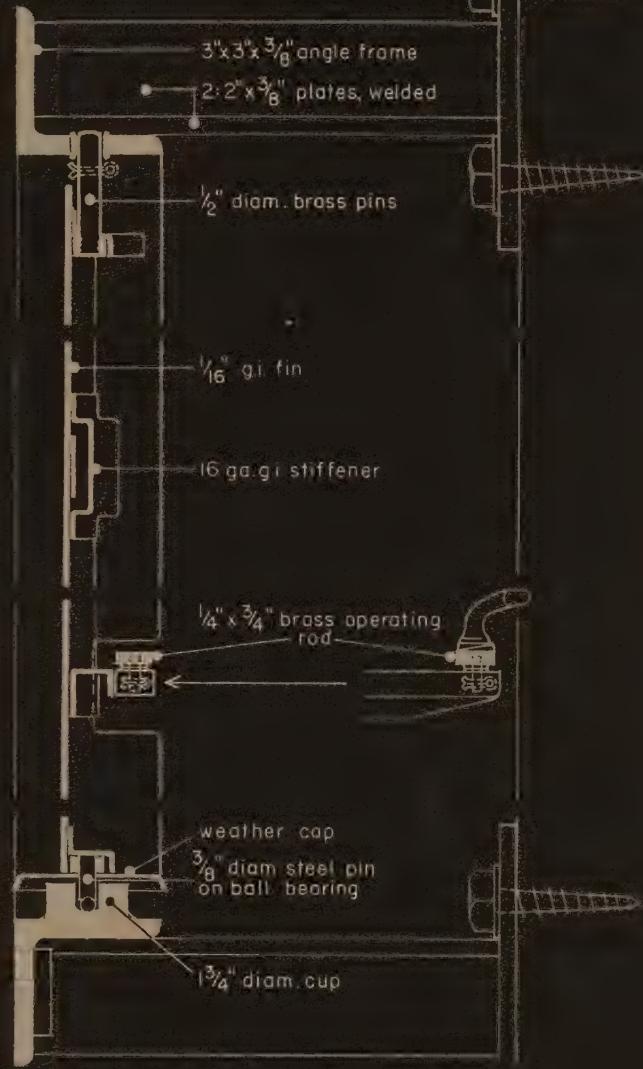
Scale: 3" = 1'-0"

With glass areas larger in today's houses, builders and architects must provide greater sun protection. Deep overhangs are difficult with truss construction, and heat is often trapped under them. But the shading devices shown here can all be used with truss roofs and all allow air to circulate.

Photo courtesy Horwitz Publications, Inc.



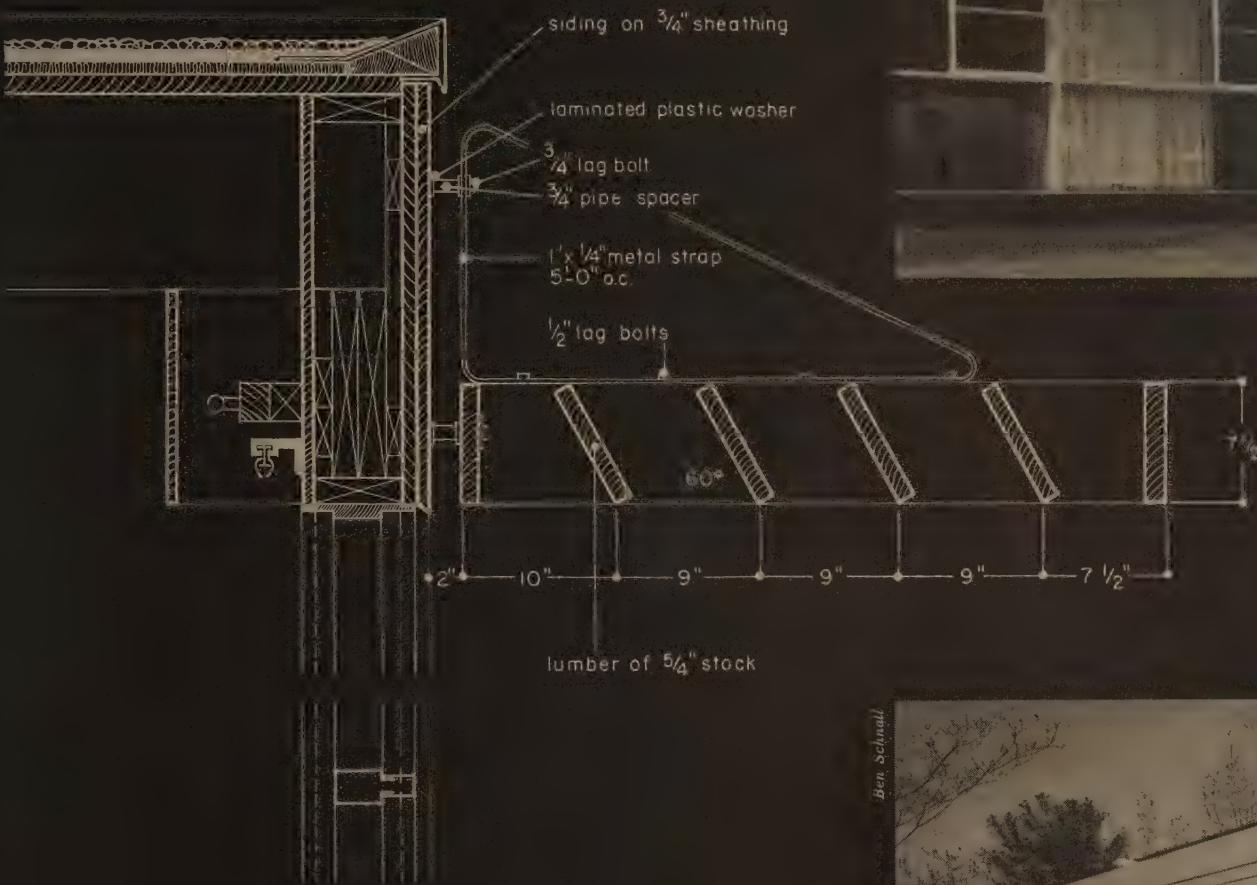
Vertical louvers adjust for complete sun protection. Open they shade room from low sun. Closed, they take the place of curtains inside and protect the house against bad weather. Fins are galvanized sheet metal; other metal parts are zinc sprayed. Entire assembly is painted after installation. Designed by Harry Seidler, ARATA, the house is in Australia.



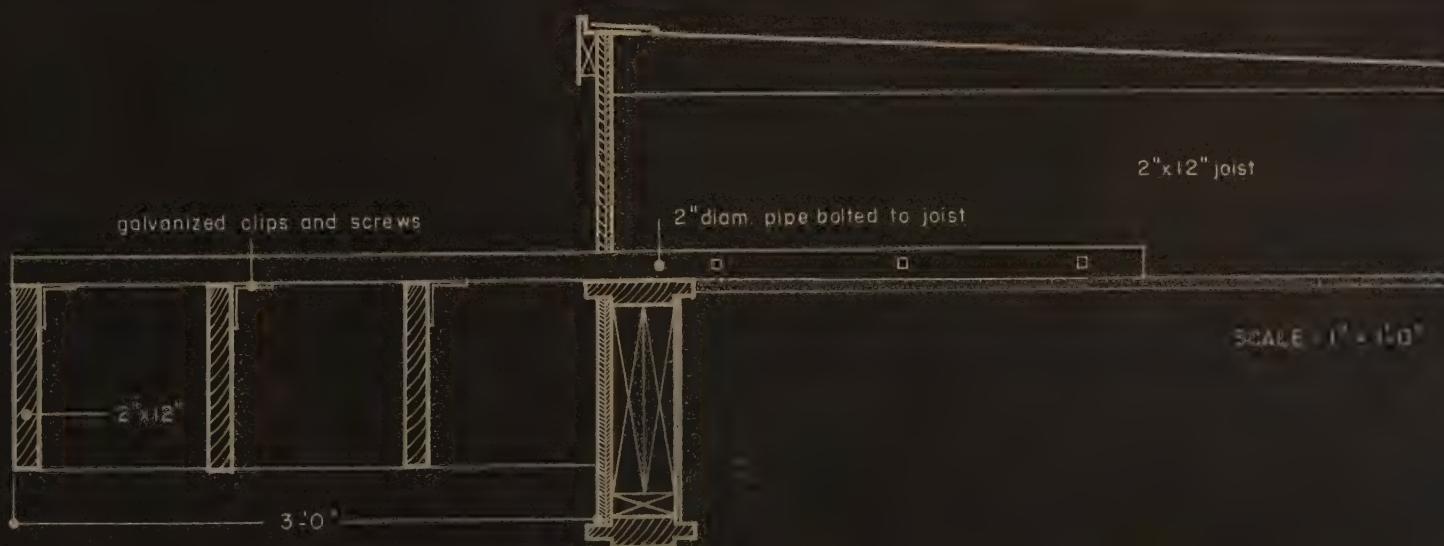
SHADING DEVICES

Scale: 1" = 1'-0"

Designed by Architect William Esbach, this sunshade is mounted directly above glass area to give maximum protection against hot rays of sun. Painted wood louvers are suspended from metal struts. Construction of house is not affected, since device is attached after building is completed. In Wyncoate, Pa.

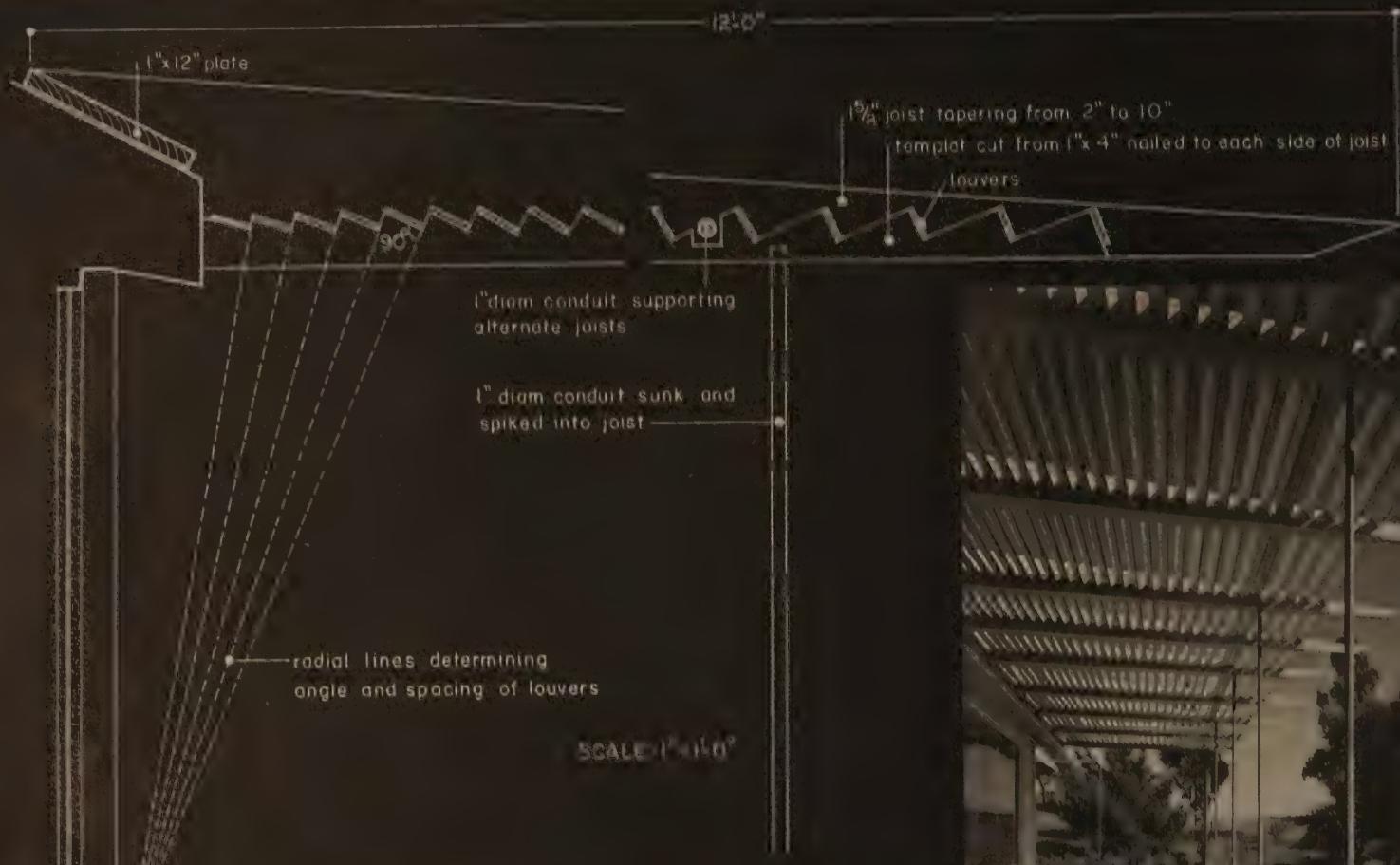


Bolted onto roof joists, 2" pipe supports this simple shading device. Pipe is double at center supports, single at each end. Nominal 2 x 12's are hung on pipes with metal straps, later painted white to match trim of house. Deep wood members are required because of the broad spacing. Like most details shown here, this device would work equally well with flat or pitched roofs. J. Johansen, architect; New Canaan, Conn.



SHADING DEVICES

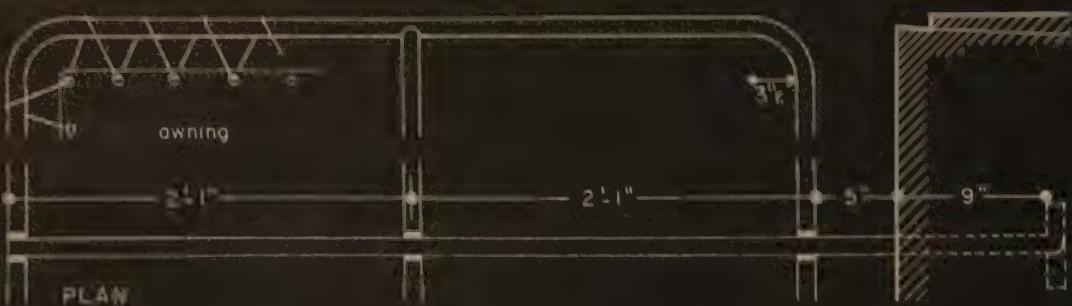
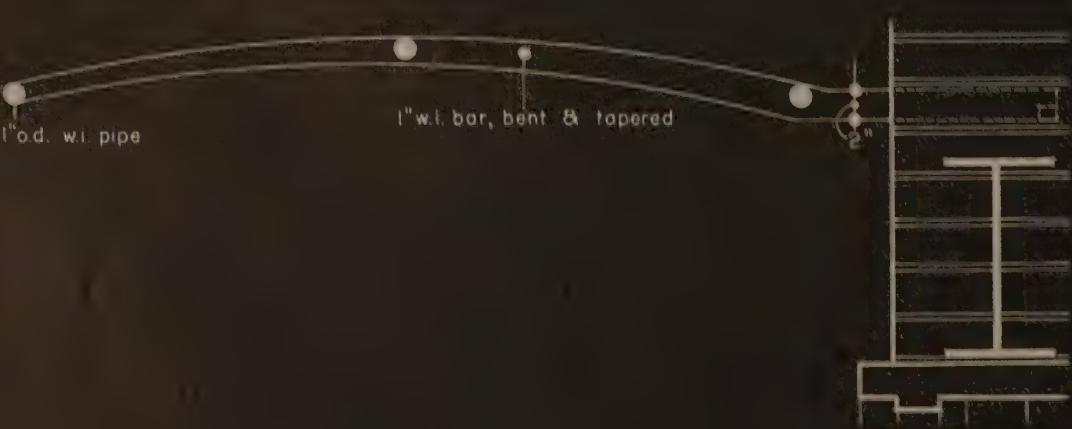
Scale: 1" - 1'-0"



Louvers are tilted steeply at outer edge of this device to protect windows from low sun. They "flatten out" as they approach the house, so that windows have maximum protection from high sun, as well. Sunshade is 12' deep because window faces southwest; solid overhang would have made room behind window excessively dark. One inch conduit posts support alternate joists; horizontal conduit carries remaining joists. Joists are fir, louvers redwood. Designed by Denis Muir, San Rafael, Calif.



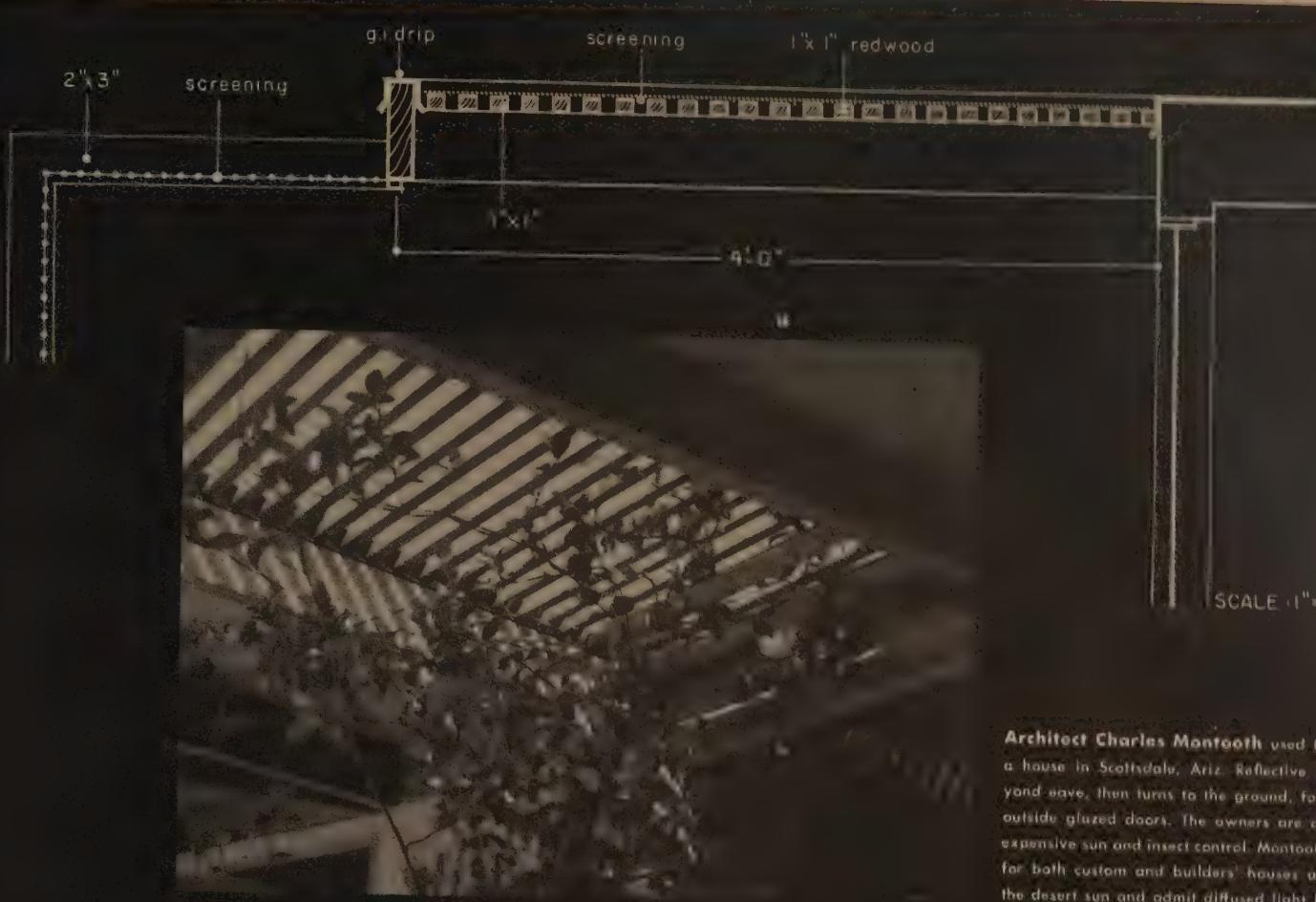
Heidi & Blessing



This sunshade is used in summer only; removed in winter to let sun help heat the house. The light yellow, canvas awning is lashed to a metal frame. Canvas lasts for several seasons. Designed by Marx, Flint & Schonne, architects, house is in Ladue, Mo., a suburb of St. Louis.

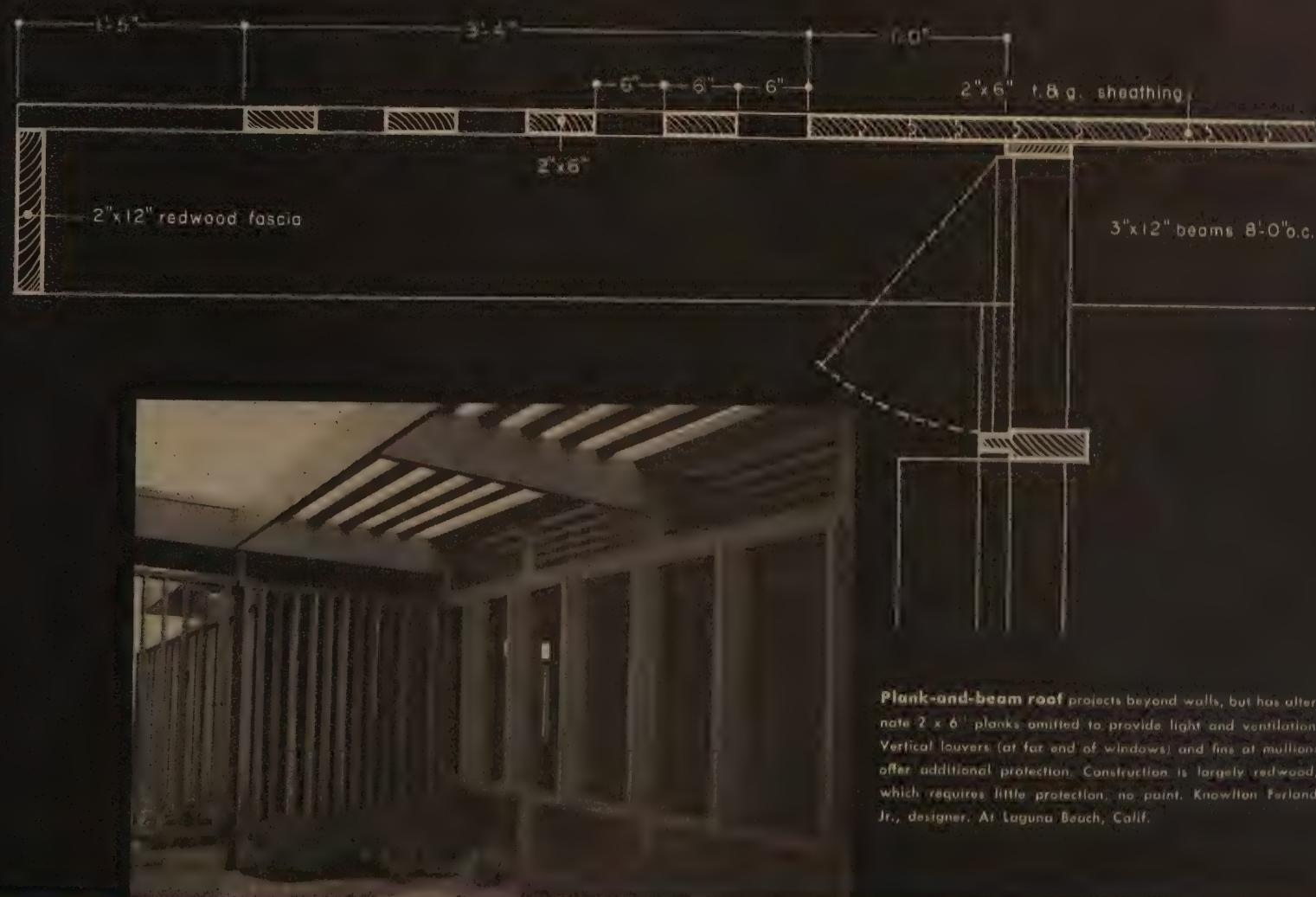
SHADING DEVICES

Scale: 1" = 1'-0"



SCALE 1" = 1'-0"

Architect Charles Montooth used this shading device on a house in Scottsdale, Ariz. Reflective screening projects beyond eave, then turns to the ground, forming an exterior bay outside glazed doors. The owners are delighted with this inexpensive sun and insect control. Montooth has many variations for both custom and builders' houses all designed to control the desert sun and admit diffused light into the house.



Plank-and-beam roof projects beyond walls, but has alternate 2 x 6" planks omitted to provide light and ventilation. Vertical louvers (at far end of windows) and fins at mullions offer additional protection. Construction is largely redwood, which requires little protection, no paint. Knowlton Ferland Jr., designer. At Laguna Beach, Calif.

How much will the credit curbs pinch?

Builders and realtors squawk at 2% cut in loan-to-value ratios on FHA, VA mortgages. The press and lenders applaud the move as a mild anti-inflation measure

Administration credit experts took a bit of the boom out of housing in late July, setting up a reaction in the industry that ran the gamut from shrugged shoulders to vehement protest. The new rules:

- Banned VA no-down loans. Now, VA will require 2% down plus closing costs.
- Raised FHA down payments by 2% of purchase price on all types of loans on 1- to 4-family dwellings provided under the Housing Act of 1954 (including Secs. 220 and 221—a move which should put still more glue in the badly mired urban renewal program).
- Sliced maximum mortgage terms from 30 years to 25 years, 32 days for VA and 25 years for FHA.

Target: no-downs. The real target, fairly obviously, was VA no-down, 30-year deals—long denounced by some builders and most lenders (not including lenders who make a tidy profit by buying such paper at big discounts). During the first six months of 1955, the number of houses started with VA loans jumped 70%, while FHA starts rose only 17%. And last time VA checked up (1954 loans), 10% of new VA homes and 20% of used houses involved no-down deals. A third of VA new-house mortgages bore 26 to 30 year terms.

Because Congress has decreed a 5% differential between VA and FHA terms—in favor of veterans—the administration apparently felt impelled to tighten FHA terms 2%, too. (see table, next page).

The result: loud complaint from NAHB, the

Natl. Assn. of Real Estate Boards and Rep. Olin Teague (D, Tex.). But the nation's press generally applauded, as did the Mortgage Bankers' Assn. and the US Savings & Loan League.

Across the nation, builders were not as shocked as might have been expected. A few were highly critical on the premise that the tougher rules would eventually cut sales.

Enough to go on. A main reason for the confidence displayed by the majority was the fact that the new terms, effective July 30, were not retroactive and many builders—particularly big builders—had enough commitments to see them through the rest of this year. Experts estimate there are over 1 million outstanding FHA and VA commitments, which will probably boil down to 600,000 through attrition. Probable results: 1) a temporary spurt in home-buying as the public hurries to take advantage of the expiring easier terms, 2) a simultaneous drop in many a builder's plans for future output lest he be caught having to sell 2% down VAs in competition with overhanging no-down houses. The real effect of the credit-cutback would not be visible until next year—perhaps in April.

There were two notable aspects of the administration's move:

1. It was part of a much larger and more pervasive change in national credit policy.
2. The changes, as a part of this general tightening, were ordered not by HHFA but by higher authority and therefore surprised

HHFA executives and builders alike.

Who threw the switch? A little more than two weeks before announcement of the new terms, HHFA Administrator Albert M. Cole said at a press conference that he saw "no reason for alarm" and did not foresee any steps to tighten up credit for the housing boom. This seemed a credible statement and it therefore is obvious that the decision to turn the brakes on housing credit was made by three other agencies—the Treasury Dept., the Federal Reserve and the White House Council of Economic Advisers.

Such a murky state of affairs in housing policy could not, of course, exist if there were a single board responsible for determining credit policies or mortgage interest rates—a recommendation made by the President's advisory committee before the Housing Act of 1954 was passed. As one Washington expert put it: "Everybody knows the line-up on the Fed's open market committee. Why can't we have the same thing for mortgages?"

Squawks and predictions. From a long view, the administration's move to ease the boom was not surprising. There had been enough warnings about easy credit for the last six months to fill an encyclopaedia. The stiffening in FHA and VA terms, however, galvanized several spokesmen to immediate rebuttal. NAHB President Earl Smith saw the action as "totally uncalled for." He said it "would seem to show an almost complete unawareness of the facts of the home building industry as they exist across the country." NAREB's official view: "We are surprised to see such an announcement from Washington, since there is nothing in the market to warrant it." Rep. Olin Teague (D, Tex.), chairman of the House veterans committee, accused the administration of "playing politics with the VA loan program." He added: "It is well known that the mortgage bankers have been campaigning for this restriction since January and now we find the administration catering to this group with no apparent regard for the veteran for whom the program was intended."

Less galvanized were Sen. John Sparkman (D, Ala.) (he saw the move as "a precautionary measure to make certain that there will be no runaway development"), Administrator Cole himself (he termed the new rules "mild and limited measures" which would not bring about "any significant cutback in the home building rate") and MBA President Wallace Moir. Said Moir: "The modest increase of 2% in FHA and VA down payments has been made in the interest of the general economy."

The builder's viewpoint. Some interesting comment cropped up in telephone interviews with a sampling of home builders in different parts of the country. Items:

- Larry Elkind, one of the biggest builders on Long Island, figured the 2% cut in loan-to-value ratios as not severe but did feel that the increase and the shortening of the mortgage term would persuade buyers to trade down.
- Little Rock Builder Elbert Fausett had always felt that a "small equity payment would not hurt." He was confident that "we will adjust to the regulations in 30 or 60 days."

THE HANDWRITING ON THE WALL

The administration had been thinking about curbing housing credit for some time.

In a talk June 16, Presidential Economic Adviser Arthur F. Burns put the handwriting on the wall with some broad hints that tighter rules might be imposed anytime. He did not single out housing. He spoke of housing, the stock market and automobiles as areas where it is important "to prevent the confidence that generates prosperity from passing into the overconfidence that generates speculative booms." Here is what he told a conference of economists at Pennsylvania State University:

"In view of our improved knowledge of business cycles and the general acceptance of government's responsibility to help achieve a stable prosperity, it is reasonable to expect that we shall be able to



BURNS

avoid deep and protracted depressions in the future. There is no good basis as yet, however, for assuming that the business cycle has been eliminated or that this will soon happen. . . . If businessmen or consumers choose to speculate in inventories, a curtailment of production is sooner or later bound to follow. If speculative builders create an oversupply of housing, years may need to pass before the supply of dwellings is brought into balance with the demand. If stock prices are bid up sharply, especially if this occurs with the aid of borrowed money, a price reaction may create financial pressure or despondency later. If the quality of credit deteriorates, whether for housing or automobiles or anything else, even a very temporary decline of employment may cause embarrassment to both lender and borrower. . . .

"The time to begin combating recessionary forces is during the prosperity phase of the business cycle. . . . Such a course is not popular because it is not yet fully understood."

► "We're requiring 10% down on the GIs anyway and the FHA increase is not very important," said Ed Fischer of St. Louis.

► Big Builder Joseph Eichler of Palo Alto, Calif. was steamed up. "I don't understand why they had to just pick on building to restrict credit," he said, adding that he thought the term reduction from 30 to 25 years would be particularly troublesome. Eichler was bothered by the fact that the home buyer was going to have to earn more than before to buy a home: "It's like increasing the price of a house by about \$1,500."

► Joseph Entress of Rochester, N.Y. also felt emphatically that the new FHA and VA regulations were "ill-advised." "There's no reason to fluctuate mortgage terms," he said. "It upsets the industry and the public."

► Mortgage Banker Jack Halperin of New York checked a random sample of 200 actual VA no-down, 30-year buyers, reported that 33% of them would have been unable to qualify under 2%, 25 year terms. "That's more serious than I would have thought," he commented. The breakdown of reasons for rejection:

	100 buyers in Pennsylvania	100 buyers on Long Island
Too little income ...	9	18
No 2% down payment	16	11
Both the above	7	4

Halperin noted, however, that buyers often scrounge up the money when they must to

meet a higher down payment, so actual rejections for lack of 2% down might not run so high.

End of the boom? Home builders who were pessimistic about their prospects for next year could at least take solace in the fact that they were part of something bigger than an industry. The Washington economists had not hit home building over the head with a mallet. Their handling of the fiscal forces that guide the economy had also showed up in an increase in the rediscount rate—up 1/4% to 2% except in Cleveland, where it rose to 3 1/4%—and a move by the New York Federal Reserve to slow down mortgage warehousing (see p. 41). In addition to these signs of the new policy, commercial banks had started raising their interest rate to prime borrowers from 3% to 3 1/4% and the Federal Reserve was meeting with top finance company officials—notably auto finance people—to discuss the problem of "too easy" terms.

It was evident that the administration wanted to tone down the national boom lest it lead to real inflation. It was equally evident that popular feeling—as reflected in newspaper editorials, anyway (see col. 3)—was entirely in favor of such caution. But it was also clear that the administration would not let the boom trickle off into anything approaching austerity.

NATION'S PRESS APPLAUDS

The nation's press generally commented favorably on the tightening of FHA and VA terms. Excerpts:

Taking steps which might apply a light brake to the building boom requires a certain degree of political determination. The longer term effect, however, should be good for the national economy without imposing any severe immediate hardship on home builders or buyers.—Washington Star

Both [FHA and VA] have been operating with the accelerator, so far as the economy is concerned, pressed right down to the floor boards. Considering the pace at which the residential building boom has been moving—and particularly that part of it financed on very little down—the surprise is not that these agencies have taken this step but, if anything, that they didn't take it earlier.—New York Times

There is such a thing as too much of a boom. . . . The government's action . . . seems justified as a precaution against inflation. . . . The tradition of home owning does not require that the process be made absolutely painless. Indeed, it may be that the sense of responsibility home owning is supposed to inspire is eliminated when it is virtually as easy and simple to "own" a home as to make out a check for rent.—New York World-Telegram and Sun

How FHA terms on new houses were hiked by new rules

The so-called 2% increase in down payments for FHA-insured homes (even FHA called it that) is actually no such thing. It is a 2% reduction in the loan-to-value ratios. So it results in down payments from 12% to 50% higher than under the old rules.

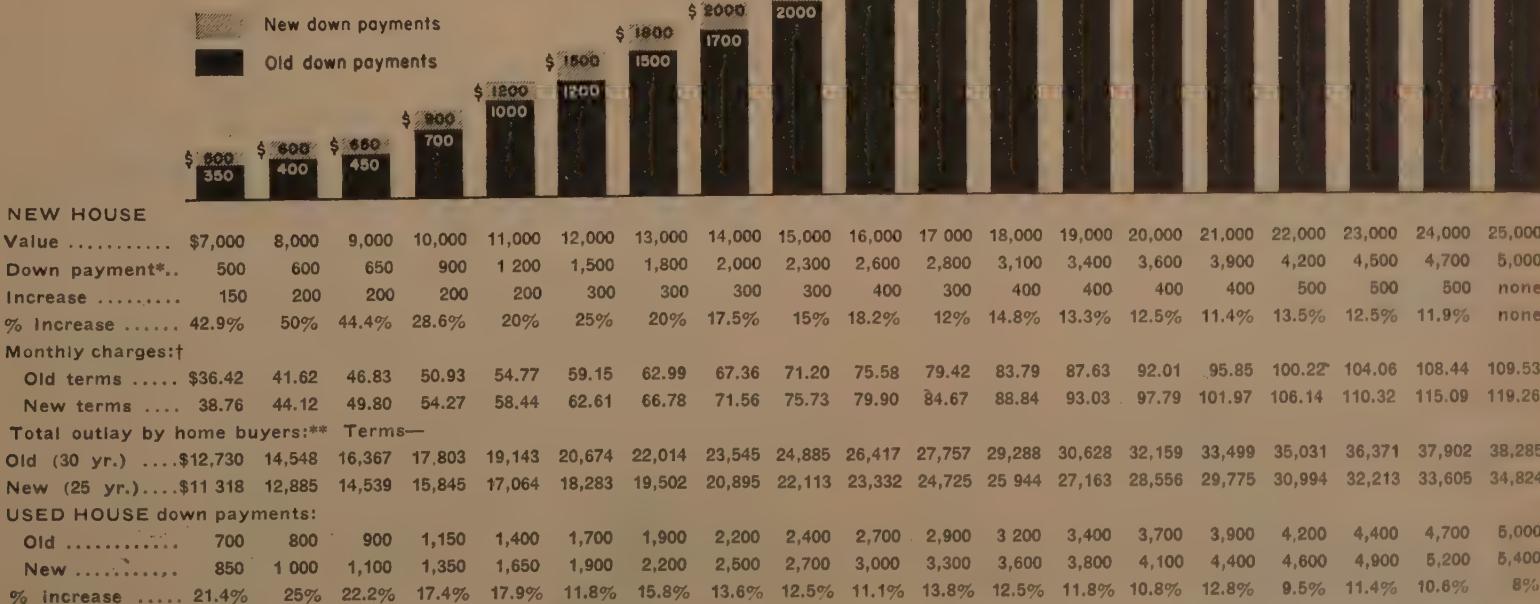
The increase is particularly sharp for new houses priced below \$10,000. The new down payment on a \$7,000 house, for example, is \$150 higher than it was before the 1954 Housing Act. This is the only instance in which the new rules force a down payment higher than a year and a half ago (the latter figures are not shown on the table under the graph, but comparison of the old, old figures (Sept. '54, News) with the new ones shows that down payments were boosted

closer to the former levels on houses under \$12,000 than for higher-priced units).

Although monthly charges are higher because maximum amortization has been cut from 30 to 25 years, the total outlay by buyers will drop dramatically because faster payoff means less will go toward interest. The total price of a \$12,000 house paid off on maximum terms will fall more than \$2,000, for example.

For used homes, down payments go up from 25% (for an \$8,000 house) to 8% (for a \$25,000

house). FHA Commissioner Norman Mason noted that the agency applied "equal restraint" to both old and new houses "to maintain" the relationship Congress established giving new homes more favorable terms than old ones.



* First year. Figures apply to single-family, owner-occupied units. Monthly payments include principal, interest at 4 1/2% per annum, and 1/12 the second annual mortgage insurance premium at 1/2% per annum.

* Figures are rounded off to the nearest higher \$50 or \$100 depending upon whether the mortgage is under or over \$10,000—in accordance with FHA's administrative rules.

** To the nearest dollar.



FHA gets a big \$10,800 worth of advice from BRAB on

How to waste less money and build better slabs

For years architects, builders and technical experts have been complaining about FHA's stiff requirements for slab-on-ground construction. FHA, in turn, held the valid position that it had to play safe until it had authoritative evidence that relaxed minimum property requirements wouldn't undermine quality.

Now FHA has that evidence, from an extraordinary panel of experts assembled by Building Research Advisory Board. This panel made recommendations that have already resulted in several changes in MPR's. Others are under consideration for the next revision; still others will require additional research before they can go into "the book." Some suggested changes will save money—perhaps over \$100 in extreme cases. Others will cost money—but they will give a better slab.

For news of other MPR changes announced simultaneously by FHA, see News, p. 43

Here are three money saving recommendations that FHA has already written into new MPR's:

1. Thinner slabs. FHA now grants a $\frac{1}{2}$ " tolerance in the 4" slab, in line with BRAB's suggestion of a nominal 4", with a $3\frac{5}{8}$ " minimum. This will permit 2" x 4" forms, and will be a valuable protection against nuisance lawsuits based on a thickness variation. The $\frac{1}{2}$ " of concrete will amount to $1\frac{1}{2}$ cu. yds. in a 1,000 sq. ft. house, at \$13-\$15 per cu. yd.

2. Nonwaterproofed insulation. Tests (right) proved that asphaltic coatings were not needed to protect perimeter insulation. Withdrawal of this qualification means a saving of up to 8¢ per foot of perimeter.

3. Waterproofing admixtures were condemned wherever used to correct deficiencies avoidable through good engineering practice. Air entraining agents, however, which give better workability, freezing resistance, and durability to concrete at no premium in cost, were approved.

The case of the \$10 word

In revising perimeter insulation MPR's, "waterproofed" was dropped in favor of "not permanently harmed by wetting, or by contact with wet concrete mix." Hardly noticeable when the MPR's were issued, it means a material saving of up to 8¢ perimeter foot to builders, or \$10 for a 1,000 sq. ft. house.

It had always been assumed that unprotected (without asphaltic coating) insulation would absorb water and cement from the mix, solidify, and become useless. The test below proved that concrete did not penetrate, that water evaporated, and that the insulation qualities were not impaired.

Baldwin-Hill Co.



1. Insulation weighed to nearest gram



2. Test box lined bottom and sides



3. Concrete (4") poured on insulation



4. Box disassembled after 24 hrs.



5. Insulation removed, examined, reweighed

Here are four other money saving recommendations either under consideration or requiring further research:

1. Interior bearing partitions. BRAB suggested that footings would not be required (p. 163) under such partitions where the loading was less than 500 lbs. per lin. ft. (well within the average one-floor house load).

2. Capillary break. Base material of "limited capillarity" may be used in place of gravel or crushed stone. To qualify, such material must not support a capillary rise of water of more than 2" by a recognized test (see one test suggested, p. 162).

3. Gravel base. Under certain design conditions (p. 162), and using certain floor coverings, the capillarity breaking base may not be needed.

4. Vapor barrier. Under certain design conditions (p. 162), the vapor barrier might not be required, though a separator would be needed to keep wet concrete from penetrating the fill.

These recommendations, still being studied, might cost you money, but will give you a better slab:

1. Reinforcing mesh. BRAB recommended reinforcing mesh (p. 169) in all heated slabs, and in unheated slabs over 30' long. This could cost you \$25 for a 1,000 sq. ft. house, but would eliminate serious shrinkage cracks. A strong minority opinion felt that further research was needed to prove the need for mesh.

2. Grading. Finish grading to be doubled, from 2% to 4%, to keep ground water from making a lake out of the porous slab base.

3. Slab height. Top of unheated or radiant slabs to be 8" above finish grade. Warm-air perimeter ducts at least 2" above grade.

4. Separator. Always required if slab is heated, or if concrete exceeds 4" slump test. Vapor barrier, if used, is a separator.

5. Contraction joints. Wherever offset in L or T shaped slab is more than 10'.

6. Insulation. BRAB's new insulation formula is based on outside design temperatures, conductivity and placement. It aims primarily at comfort in indirectly heated slabs, and economy (reduction of heat loss) in heated slabs. In some cases, more perimeter insulation may be required.

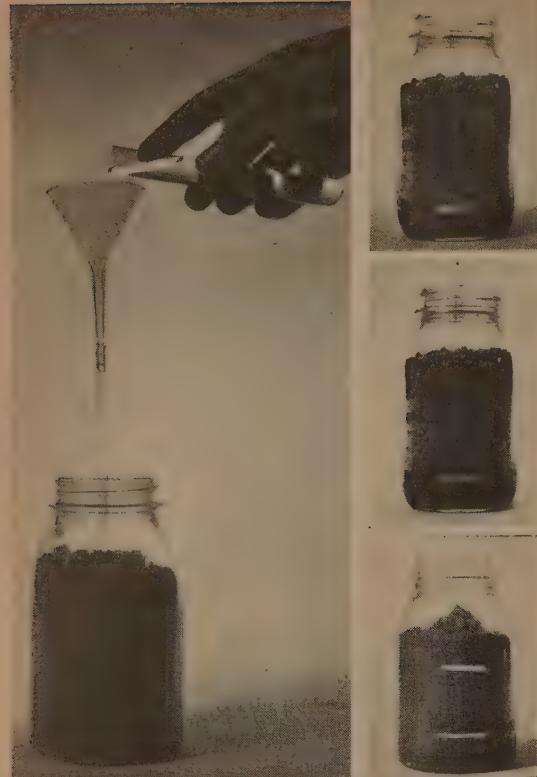
continued

A simple Mason jar test for capillary rating of base materials

When BRAB introduced the idea that "limited capillarity" materials would be satisfactory as a base for the slab, the committee tried to find a simple test that would determine whether or not a material being considered would hold the capillary rise of water to the 2" maximum permitted.

Tyler S. Rogers, technical director for Owens-Corning Fiberglas Corp., conceived the Mason jar test shown at left. A glass tube and funnel are placed in the jar, then it is filled with the material to be tested. Water (dyed) is poured through the funnel to a depth of 1". This level is immediately marked on the side of the jar. After one hour, the rise in the dye color above the original level is noted and measured. If the rise in the liquid level does not exceed 2", the material is acceptable as a noncapillary bed material.

The jars illustrated show two different materials. Two top photos of a $\frac{1}{4}$ " (and smaller) grit, taken one hour apart show no measurable rise in the level of the water due to capillary action. In the bottom photo, the two strips of tape on the side of the jar demonstrate the rise of the water in a coarse concrete sand, containing some pebbles. In one hour, the water level had risen over 3", making this material unacceptable as a capillarity break.



Photos: Walter Duran

Four design conditions

that influence your choice of floor coverings



Group A allowed
Group B allowed

Group A allowed
Group B allowed*

Group A allowed
Group B not allowed

Group A allowed*
Group B not allowed

* Only if water table is below figures for specific soils in capillarity table

FLOORING MATERIALS

- Group A:** • asphalt tile,
• rubber tile,
• vinyl asbestos tile,
• flexible vinyl tile (unbacked)

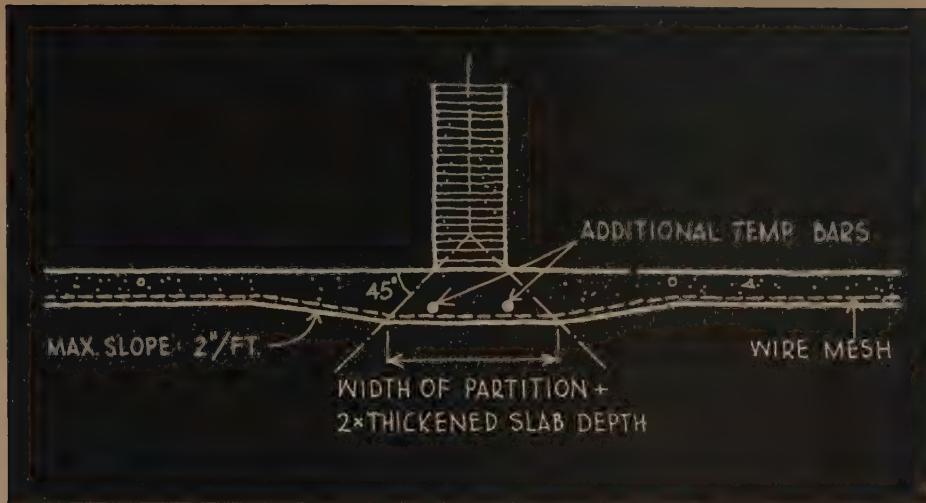
- Group B:** • cork tile,
• linoleum,
• felt or
• fabric-backed compositions,
• wood block

Some of these materials in both groups require special adhesives. Consult manufacturer's recommendations.

CAPILLARITY FIGURES

Capillary water does not rise above the water table in these soils more than

Gravel	0.0'
Coarse sand	2.6'
Fine sand	7.5'
Silt	11.5'
Clay	11.5'



What the BRAB report signifies:

This is a fine vindication of the purposes for which Builders Research Advisory Board was set up, that is, to make available to government and the building industry all of the uncoordinated research being carried on by private industry, both in their own laboratories and in the research facilities of educational institutions.

For less than \$10,800 in incidental expenses, FHA got the services and research of 18 topflight men, and information that will be worth this sum many times over in performance and savings in slabs.

Where do slabs need less, and where do they need more?

Load-bearing interior partitions have always been "supported in a style to which they have become accustomed," but when BRAB took a long, hard look at traditional structural practice, they suggested that an economy program was in order. Over-designing costs money, and every ounce of "fat" trimmed from construction costs makes the housing "steak" a better buy.

Builders everywhere, regardless of loading, must "thicken slab under bearing partitions and nonbearing masonry partitions to form a beam not less than 8" thick and 16" wide." BRAB's report suggested that no thickening of the slab would be necessary beneath such partitions if the load were less than 500 lbs. per lin. ft., a figure well within the loading of the average house partition (one-story construction). Where the load was over 500 lbs., but less than 1,000 lbs., only a 2" thickening (see detail, above) would be required.

(Some typical savings: Levitt's 780 sq. ft. Jubilee, at Levittown, Pa., could eliminate almost $\frac{1}{2}$ cu. yd. of concrete if footings were not required under the bearing partition —\$5-\$7. In the larger Country Clubber, the saving would be well over 1 cu. yd.—\$15—plus, of course, the trenching labor involved.)

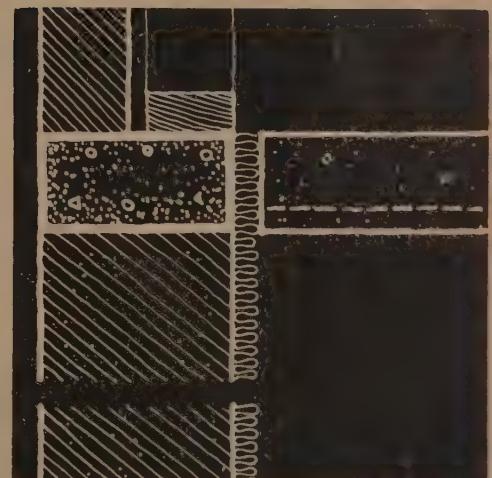
Another common practice questioned by the committee was that of supporting the slab on foundation ledges. They felt that the slab edge must always be free to move with any movement of the slab as a whole. Recommendation: the inside top portion of the foundation wall should be either perpendicular, or tapered as necessary to accommodate the 4" stud wall above. Details (right) were suggested for both stud walls (a and b) and solid masonry walls (c).

Greatest difference in opinion arose from the recommendations for reinforcing the slab. Everyone thought that reinforcing was needed in slabs laid on excessive (2'-2 $\frac{1}{2}$ ' or more) fill, but the structural engineer on the panel felt that all heated slabs, and unheated ones over 30' in either direction, should have 10 ga., 6" o.c. mesh throughout (21 lbs. per 100 sq. ft.; \$2.52 per 100 sq. ft.), and that after 45' in length, the mesh should be enlarged to 8 ga. and 6 ga.

Differing opinion pointed out that many heated slabs (and unheated ones well over the 30' limit) have worked well without reinforcing, and that evidence of the need for such steel was not conclusive. Further research was requested as urgently needed.



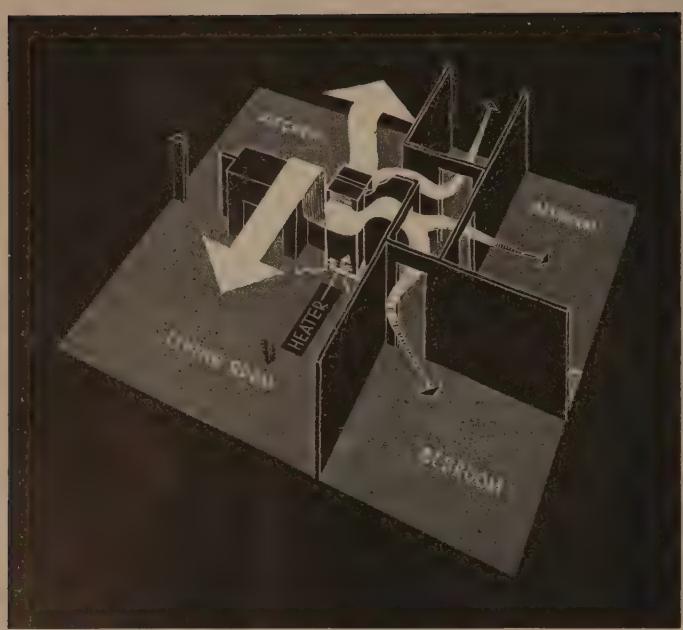
a.



b.



c.



Blasts of warm air from heater flow directly to kitchen and living room of test house, reach other rooms with decreased effect because air has to duck under constricting doorways. Typical gravity wall heater, at right, has supply grille at top, return at bottom.



The National Bureau of Standards reports on

How to do a better heating job with wall heaters

Wall heaters are just about the toughest kind of heating system for a builder to handle. Ducts are seldom used to assure even air distribution and most of these marginal heating devices go into low-cost houses without basements, which compounds the heat problem. What do you do?

FHA handed the problem to engineers at the National Bureau of Standards. The result is a significant new report, just issued,* which indicates five major ways to avoid mistakes and sharply increase wall heater efficiency. They are:

- Use plenty of ceiling insulation. Since little or no ductwork is used with a wall heater, the warm air rises immediately heating the ceiling and turning the whole surface into a big radiator, which "radiates significant amounts" of heat to the floor.

* "Gravity Warm-Air Heating of Basementless Houses."

In the Bureau's 616 sq. ft. test house, engineers recorded an average living room ceiling temperature of 102°. At this temperature a ceiling can shower down heat rays at the rate of 35 Btu's per sq. ft. of surface—enough to turn a cold floor into a warm floor.

With little or no ceiling insulation much heat escapes through the attic, ceiling temperatures fall off sharply and little downward radiation results. At least 3" of ceiling insulation should be used.

- Do not use wall heaters in cities with an outside winter design temperature of less than 0°. When it was -5° outside of the test house the heater could not warm the two bedrooms or bath to 70° at the critical 30" level above the floor. In addition, there was as much as 19° temperature differential between air above the floor and air at the 60" level in the same room. The

Bureau's engineers therefore recommend that wall heaters—with or without a booster fan—should not be used in areas where the winter design temperature is less than 0°, e.g., not in such cities as Cleveland, Milwaukee, Denver, etc. (And for best results they should *normally* be used only in areas with mild winters.)

- Avoid doorways that constrict air distribution. As shown in the diagram (left) the bedrooms and bath showed up poorly chiefly because they are separated from the heater by conventional doorways (whereas living room and kitchen are supplied directly from the heater). The explanation is that when warm air has to squeeze under a doorway to reach a room "it arrives at a lower temperature and conveys less heat." Moreover, the average ceiling temperature in bedrooms and bath was no more than 80°, which means much less ceiling radiation for these rooms.

Three possible solutions: 1) use short ducts for rooms with doorways; 2) or use ceiling-high doors or louvers above conventional doors; 3) or the ideal solution would be an open-planned house with no ceiling-high partitions, like the dramatic house shown on the opposite page.

- Realize that FHA's MPR for heater location is "a liberal limit." Distance from heater outlets in the test house to the center of any room was no more than 11½', although FHA permits up to 18'. Distance to the center of the coldest room was only 9' (because a doorway intervened). Yet at a -5° weather condition outside, temperature distribution inside was strikingly poor. Conclusion: for best heating results builders should try to stay well within FHA's limit. (In the deep South and West Coast, however, this point is not so critical because of mild winters, the probable reason for the 18' limit.)

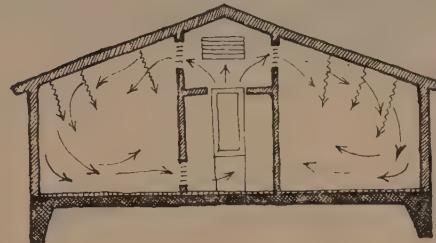
- Keep the over-all heat loss to a minimum. The computed heat loss of the Bureau's test house was about 51 Btu's per hour, per sq. ft. of floor area, based on an indoor-outdoor temperature difference of 70°. This is about average for ordinary houses. But the Bureau's engineers say that in many cold areas heating performance might be satisfactory if the over-all heat loss were "significantly lower." In other words, the use of double glass and heavy wall and ceiling insulation could easily turn a poor job into acceptable heating.

In conclusion, the National Bureau of Standards emphasizes that the tests "do not provide specific answers to all questions that might be raised" about wall heaters. What is reported, however, can go a long way toward helping builders provide a more comfortable house.



Perhaps there is no better illustration of the Bureau of Standard's findings than this \$15,000 Minneapolis house. A centrally located gravity heater efficiently warms 1,250 sq. ft. of living area, despite -20° outside in winter. Because the ceiling is well insulated it is warmed to about 100° and substantial heat radiates downward. Because partitions are only wall-high the warm air bounces off the ceiling and flows out freely to all rooms (except the fully partitioned bath which gets heat from a duct). And because slab and walls are insulated to the hilt and double glass is used throughout, the builder, Robert Norsen reports the over-all heat loss was slashed to 27 Btu's per sq. ft., fuel costs to as little as \$84 a winter! (For full details see Jan. '54 issue, p. 123.)

Wall-high partitions permit covering blanket of warm air to flow freely out to all rooms. Rising warm air from central furnace also heats ceiling, which radiates much heat downward.



Open planning not only boosts heating efficiency, but also increases livability; space borrowed from outside enhances inside. Noise is minimized by acoustical tile ceiling.

Warren Reynolds Photography, Inc.





Wesley Bals

On the newsstands this month—

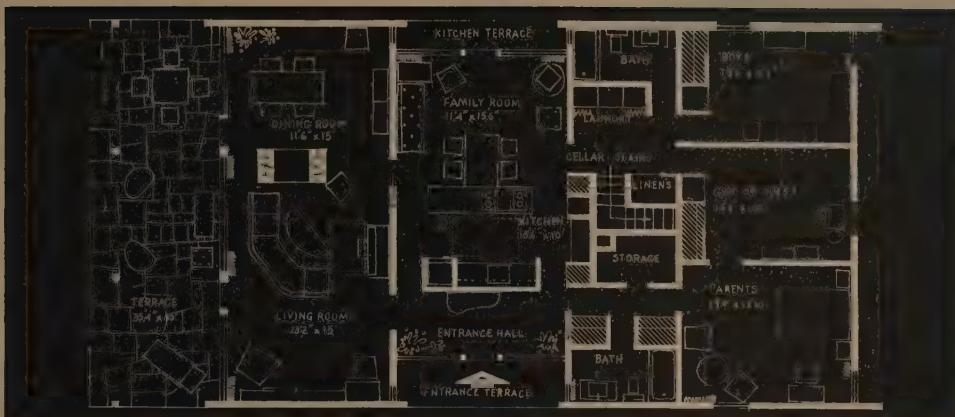
HOUSE & HOME's consumer magazine review

New design ideas that will influence your prospects

New and important trends in home designs show up quickly in consumer magazines. Among the interesting houses published this month, the four on these pages may well influence the home buyer the most. Here's why:

1. Two of the houses have interior kitchens with skylights instead of windows. All utilities are centralized and the housewife can control her domain from a central vantage point. While a check with FHA revealed that interior kitchens are not yet generally acceptable for mortgage insurance, the four and one-half million readers of these two magazines may change that picture.
2. Three magazines (with a total circulation of nine million) feature houses with "family rooms." In one case it is combined with the dining room, but in the other two it is a separate area for children and television. Already showing up in builders' houses (see p. 146), demand for family rooms will gain further impetus from these articles.
3. Over one-half million readers will see a two-story house that takes advantage of a difficult sloping site to achieve privacy and outdoor living facilities. Bedrooms in this house are on the lower level, the living area above.





COMPANION

Circ.: 4,162,500

"Designed around a kitchen that has room for all to share the day's activities" is this post-and-beam house by Architect George Nemeny. "While the rest of the house is planned for jolly family times or for individual privacy in the bedroom section, the living-dining room and terrace are for leisurely hospitality," say WHC editors of this "House for Family Living."



A flat roof builder's house . . .

. . . and one with a pitched roof

Better Homes and Gardens

Circ.: 4,044,335



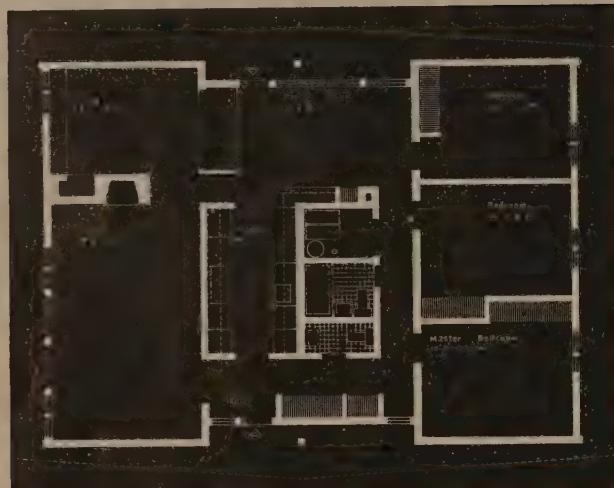
Built in 100 cities across the country, this is BH&G's "Idea Home of the Year." Its pitched roof is laminated of alternating 2 x 3s and 2 x 4s, exposed inside the house. "A truly remarkable interior arrangement allows any room to be by itself. There is no doubling for uses of space. Still, areas are uncommonly versatile." The house has a 1,626-sq.-ft. plan, and was designed by Hugh Stubbs Associates, architects.

Suter, Hedrich-Blessing



continued

A skylighted utility core



LIVING
FOR YOUNG HOMEMAKERS

Circ.: 520,303

"Psychologically, this house is twice as big as it is in terms of actual measurement (1,500 sq. ft.). Thousands of viewers have been impressed with the feat of a small house that behaves like a big one." So report LIVING's editors of this "Living-Conditioned House" designed by Architect Norman C. Nagle. "To achieve a flow of space, active and quiet areas extend in an unbroken circle around a central, windowless core containing the kitchen, baths and utility room." This house has been built in several communities across the US.

Ernest Silva



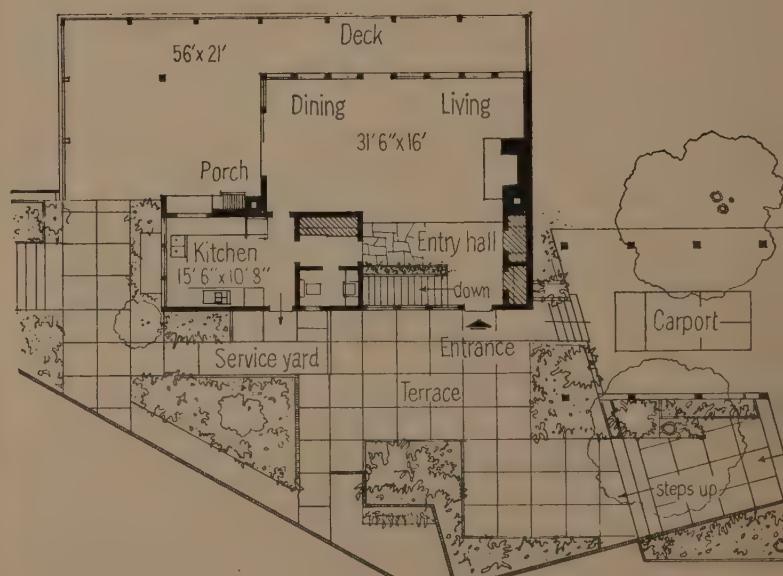
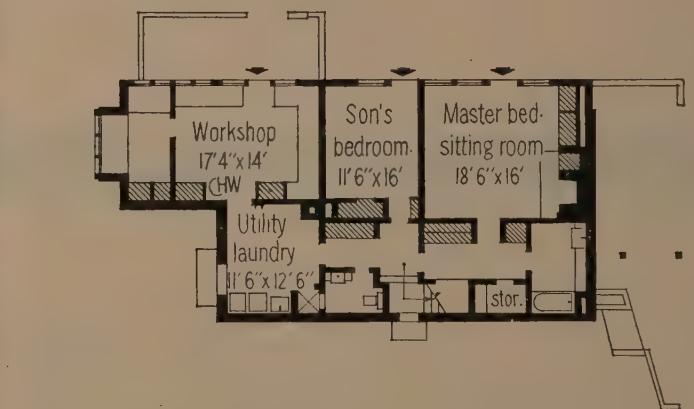
A hillside house with bedrooms below



House & Garden

Circ.: 517,023

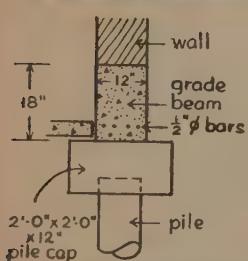
"All living areas in this two-story house have the benefit of a view and privacy from the street," comments H&G. It was designed by Architect Harrison Overturf for Seattle, Wash. "There are window-walls in living-dining room and kitchen on the upper level and in bedrooms on the lower level. The entrance on the opposite side, looks out on a secluded court set back from the road. For complete privacy the front wall of the house, facing road, is windowless. The deck is an extension of the living-dining area."





Dearborn-Massar

How to use LOW LAND



In Minneapolis, wood piles are used. Most of the land still available within the city limits is over an old lake bed, making conventional foundations impossible. Several builders have begun to use wood piles and grade beams. While these foundations cost about 20% more than ordinary footings, the desirable location makes it well worth while. After the piles have been driven, a concrete cap is poured over them and the grade beam laid.

Today builders
are dredging and driving piles,
even changing the course of rivers
to make low land suitable for home building.
Scarcity of good land and high prices
make this pay off

Land costs are doubling and tripling. In Wichita land has risen 200% since 1950; in Colorado Springs lots have doubled in price since 1952; and in Los Angeles, land prices have tripled since 1948.

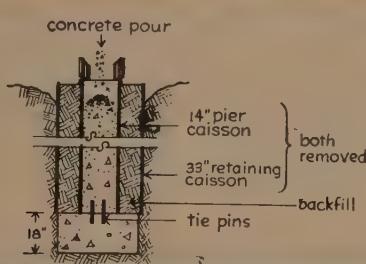
Raw land is now so costly in most towns that it pays builders to spend money to *upgrade* land they formerly bypassed.

In Wichita, Builder Willard Garvey paid \$325 an acre for dune land along a river. Garvey was forced to build a levee to keep out river water, but feels the project was well worth while. He is building 800 houses on the site, and sells occasional lots to other builders for \$800.

In Denver, Builder Lou Carey spent four times his usual land development costs to improve a low tract near a creek. The land doubled in value (it originally cost \$1,100 per acre), giving Carey 400 lots at a very satisfactory price.

On Long Island marsh land, Ocean Lea Homes uses a dredger to backfill. Ocean Lea pushes soil from a 20' wide trench onto the building sites, then refills trench with sand dredged from a nearby inlet. The builders estimate this fill costs \$5,300 per acre, one third as much as conventional fill trucked in. The dredge pumps 4,000 cu. yd. of sand every 24 hours. Dredge cost about \$85,000, but in most areas can be leased.





On Long Island, concrete piers and grade beams are being used to get positive bearing on firm sand and gravel 8' below the surface. An auger rig (cost: \$10,000) drills a 40" hole to the firm sand level, the footing is poured, and a 14" caisson inserted within the larger one. Then the pier is poured. After the concrete has set both caissons are removed. Builder Murray Glicksman claims this costs him \$320 less per house than conventional piers.

continued



How to turn low land into buildable lots

Big schemes for making low land usable show up all over the country; most require large investments and big machinery, but some (like the ponding areas below) are within reach of smaller builders

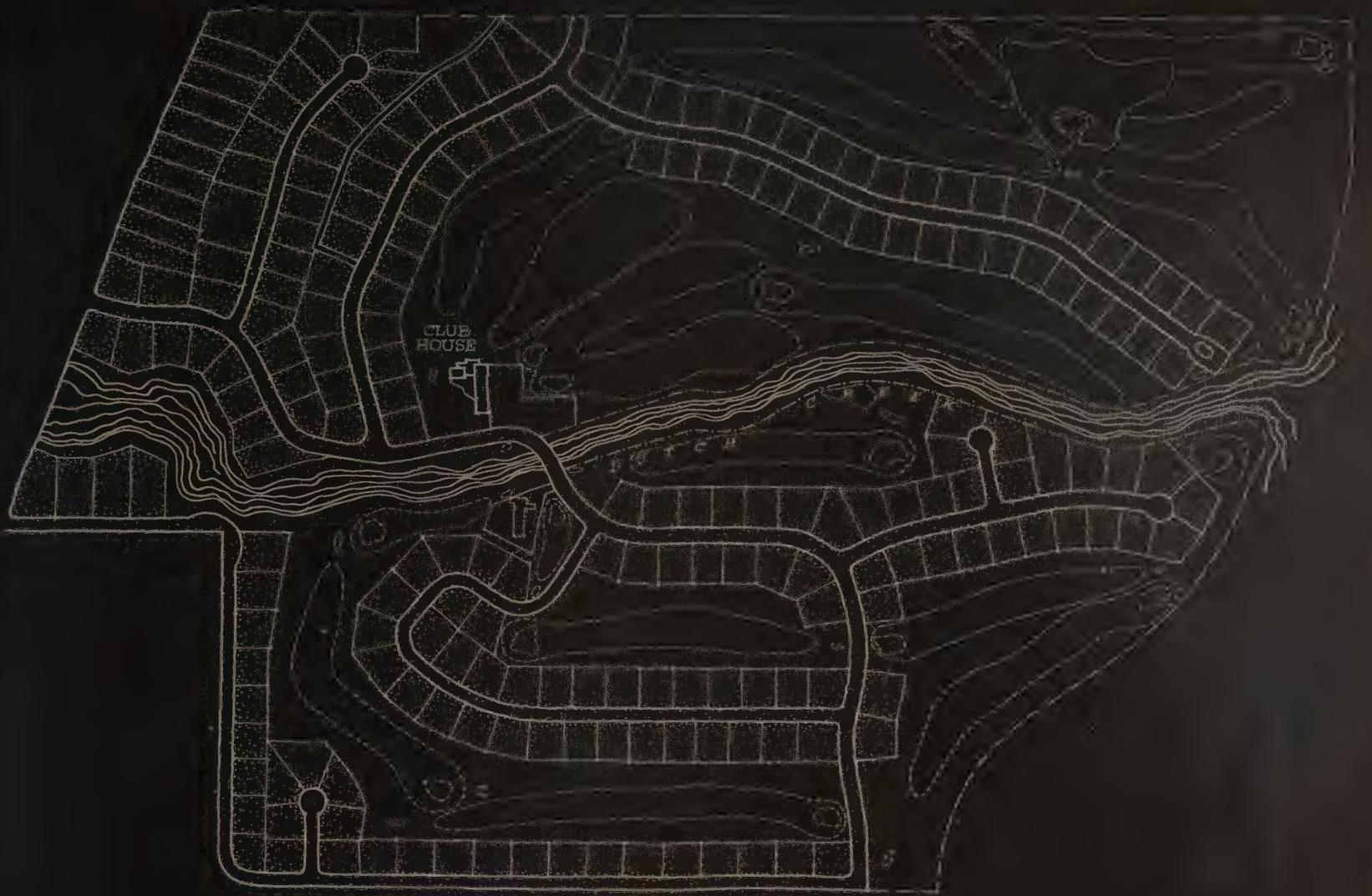


↑ In Salt Lake City, a river is being "straightened out" to make usable lots of the wasted land in its meandering course. The Jordan River twisted through Alan Brockbank's entire project, ruining hundreds of lots and making orderly land development impossible. Brockbank cut a straight new channel for the river. Some of the remaining low land he may turn into a golf course.



↑ In South Bend and Louisville, "ponding areas" relieve storm water problems. Water from the subdivision drains into the ponds, is then discharged slowly into city mains. Evaporation also removes some of the collected storm water. The ponds are landscaped as features of the tract.





Near Denver a golf course handles flood water.
Because the nearby Platt river flooded their land every spring, the owners consulted a land engineering firm which suggested combining a 221-lot residential area with a golf course. A 150' floodway runs through the property with the golf course on either side. For times when the floodway contains water, walkways have been built across it

for golfers. The land developers will get double benefits from their land: 1) they get a golf club which they can sell (or lease) at a profit; and 2) the club raises the prestige of the houses built near it. The lots, about 150' wide, are about \$6,500. Less expensive lots do not border fairway. Harman, O'Donnell & Henninger Associates, did the land engineering. Van Schaack & Co., developers.



NEW PRODUCTS



Board and batten treatment follows stud centers, though battens would only be needed every third stud

Asbestos-cement panels for exterior "walls of stone"

a. b. Two inert materials, asbestos and cement, are combined under tremendous hydraulic pressure to form two building panels, **Flexboard** and **Economy 250**. Both have a stone-like composition and may be used as exterior or interior surfacing.

Flexboard is a flat sheet, comparatively light in weight (4' x 8' x $\frac{1}{8}$ ", 40 lbs.), that can be sawed or scored and broken, and nailed close to the edge without drilled nail holes. Battens of wood or *Flexboard* are generally used to finish joints. Where sheathing is continuous, the $\frac{1}{8}$ " thickness is sufficient, but in post-and-beam construction or where studs are bridged, the 3/16" or $\frac{1}{4}$ " sheets are required.

Soffits and carport ceilings also are fashioned from the sheets, which may be left their natural gray or painted any color. The flexibility that permits it to conform to curved surfaces also

continued on p. 210



Corrugations give strong vertical lines to contemporary house, overlap one curve (4") where panels meet

Other

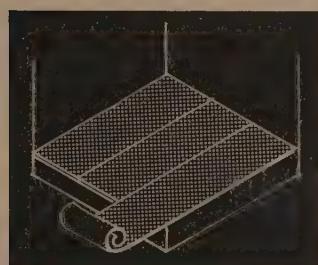
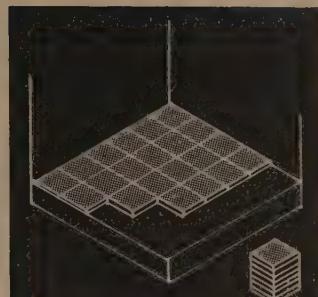
NEW PRODUCTS in this issue



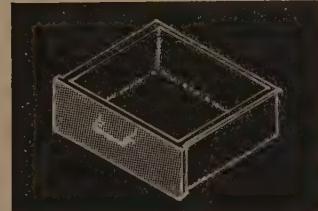
Nylon reinforced plastic panels . . . p. 214 lift-up range tops . . . p. 222 electric soldering iron . . . p. 238 motor propelled wheelbarrow . . . p. 242

RESEARCH

Plastics, continued from p. 100



Sheet and tile flooring. Vinyl sheet (top) wears well, is easy to maintain, offers good impact, abrasion, chemical and grease resistance. Labor and handling are cheap but patching may be difficult. Floor tiles (lower cut) in resin-bound cork and various vinyls have similar properties; asbestos filling gives better wear and heat resistance. Though less abrasive than vinyl, resin-bound cork is warmer. Tiles mean higher labor than sheets, simpler replacement.



Plumbing. Fixtures are molded in reinforced polyester; sinks also are made of rigid vinyl. All are strong, lightweight, warm to the touch and surfaces have necessary resistance to water, grease, heat, abrasion and discoloration. But traditional shapes, make no use of the freedom plastics permit.

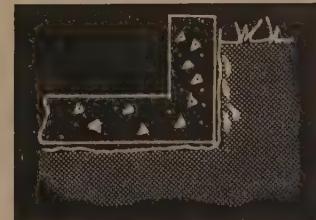
Drawers and built-ins. Phenolic and styrene are most popular for drawers though other resins can be used. At present they are more expensive than wood drawers due to limited production. But they give advantages of rounded corners, impervious surfaces and are strong and dimensionally stable.

Some current uses for plastics

Architects and builders should know that although there are hundreds of different kinds of plastics, they break down into two basic applications in houses. The first is the use "in conjunction with older materials like glass and wood, whose properties are basically altered and usually improved. Examples are the resin impregnation of wood to make plywood and wood laminates, the laminating of glass fibers with resin, plastic impregnation of textile fibers, and metal laminating with resin adhesives." (The terms can get pretty technical.) In each case the wood, glass, fabric or metal takes on new and improved properties.

Then, of course, plastics can form new products of and by themselves; e.g., plastic vapor barriers, chairs and pipe. On this page are six sample uses with critical comments based on MIT's report.

continued on p. 190



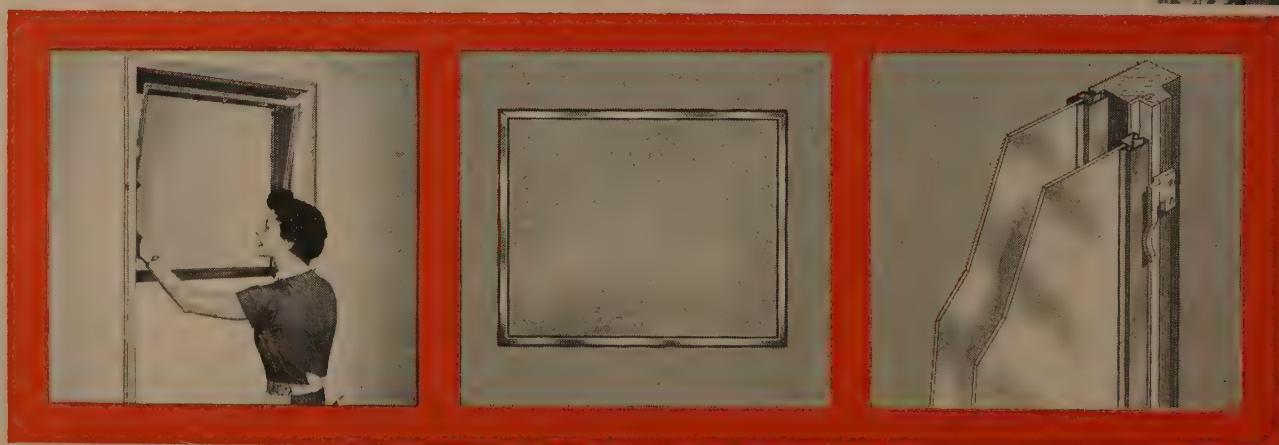
Lightweight panels. Honeycomb paper cores impregnated with phenolic resin makes panels with high strength-to-weight ratio. Weather resistance depends on type of skin used. Insulation and acoustic values are poor unless core is filled (as with perlite). Panels "are a good field for improvement."

Moisture barrier. Waterproofing membranes for foundations are available in large sheets of vinyl, polyethylene, oriented polyester. Advantages are low cost, easy installation, low permeability. Oriented polyester has highest tear strength but requires special jointing. Polyethylene has best rating.

Combination has to build complete self-storing

2

No struggle. No strain. No fighting with storms or screens at spring and fall change-over time. Lower storm panel on the new Andersen Self-Storing Combination Window slides easily and effortlessly to top of the unit for storage during summer months. Can quickly be done from inside in a matter of seconds.



Screen panel easily removable. For winter storage screen panel can be left in place or can be stored in upper half of unit.

Full length screens are easily obtained with the Andersen Self-Storing Combination. Simply order an extra screen panel for the unit.

Triple glazing is possible when desired. All you do is order two extra upper storm panels and slip them into place on the unit.

new client appeal

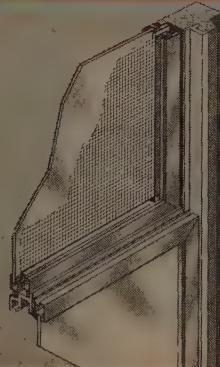
**Big
improvement
in Pressure
Seals**

3



Fits Pressure Seals exactly! The new combination window is made to go with Andersen Pressure Seals. They team up to offer the best looking, most weathertight, most convenient double hung unit on the market.

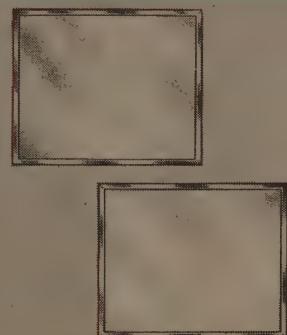
Easy sash removability of all Andersen Pressure Seal Units makes the new Self-Storing Unit a doubly easy-to-use combination window. All panels can be removed, all cleaning can be done from inside the home.



Sturdy 1½" treated frame with aluminum center bar. Nylon strikes for screen and top storm panel installed. Plastic guide for bottom storm panel installed. Hangers and locks for applying to frame.



One screen panel. Panel has all-weather aluminum frame. Fasteners already applied at factory. Panels are wired with rugged Alclad aluminum screen cloth. Will withstand year 'round exposure.

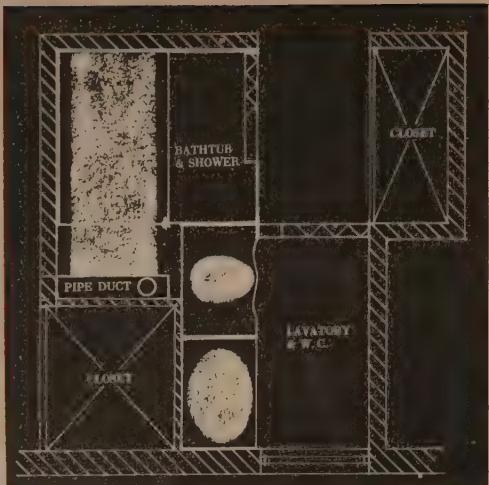


Two storm panels. Each panel made of quality window glass set in narrow aluminum frame. Designed to be good looking, strong, yet light in weight to assure ease of handling whenever necessary.

	WIDTH	1'-8"	2'-0"	2'-4"	2'-8"	3'-0"	3'-4"
HEIGHT	3'-2"		X	X	X	X	X
	3'-6"		O	O	O	O	O
	3'-10"		X	X	X	X	X
	4'-2"	X	X	X	X	X	X
	4'-6"	X	X	X	X	X	X
	4'-10"		O	O	O	O	O
	5'-2"	X	X	X	X	X	X

There's a wide selection of sizes offered by the Andersen Self-Storing Combination Window. Just look over the size table. You'll find 28 sizes (marked *x*) designed to fit perfectly with Andersen Pressure Seal Units. What's more, you'll find 10 extra sizes (marked *o*) have been added to the line to make it adaptable to most modular stock size windows.

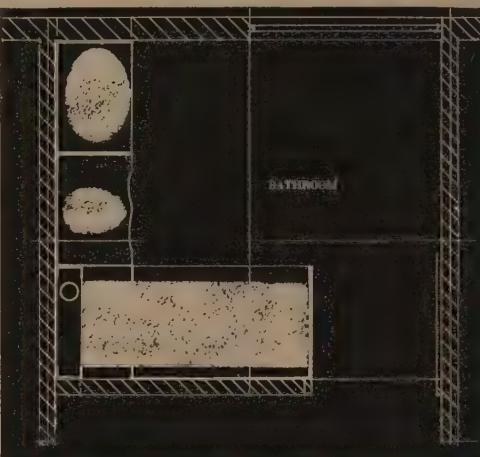
Andersen



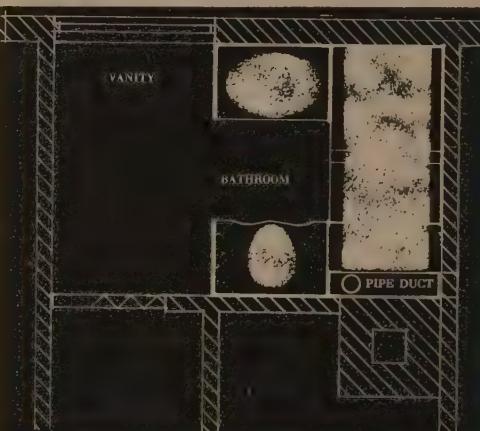
1. National Homes' Continental: bathroom length would shrink from 8'-8" to 8'-0"; two compartments included instead of one.



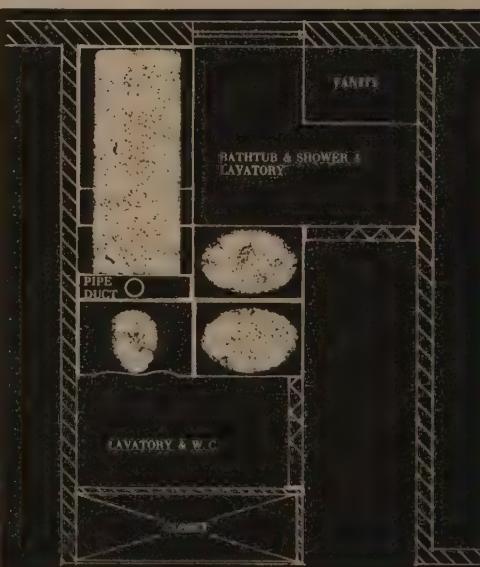
2. MIT's scale models of tub, lavatory and water closet. Actual units would be polyester glass fiber. At right is complete plumbing tree.



3. Techbuilt house: here a standardized lateral dimension of 6'-9" would be needed.



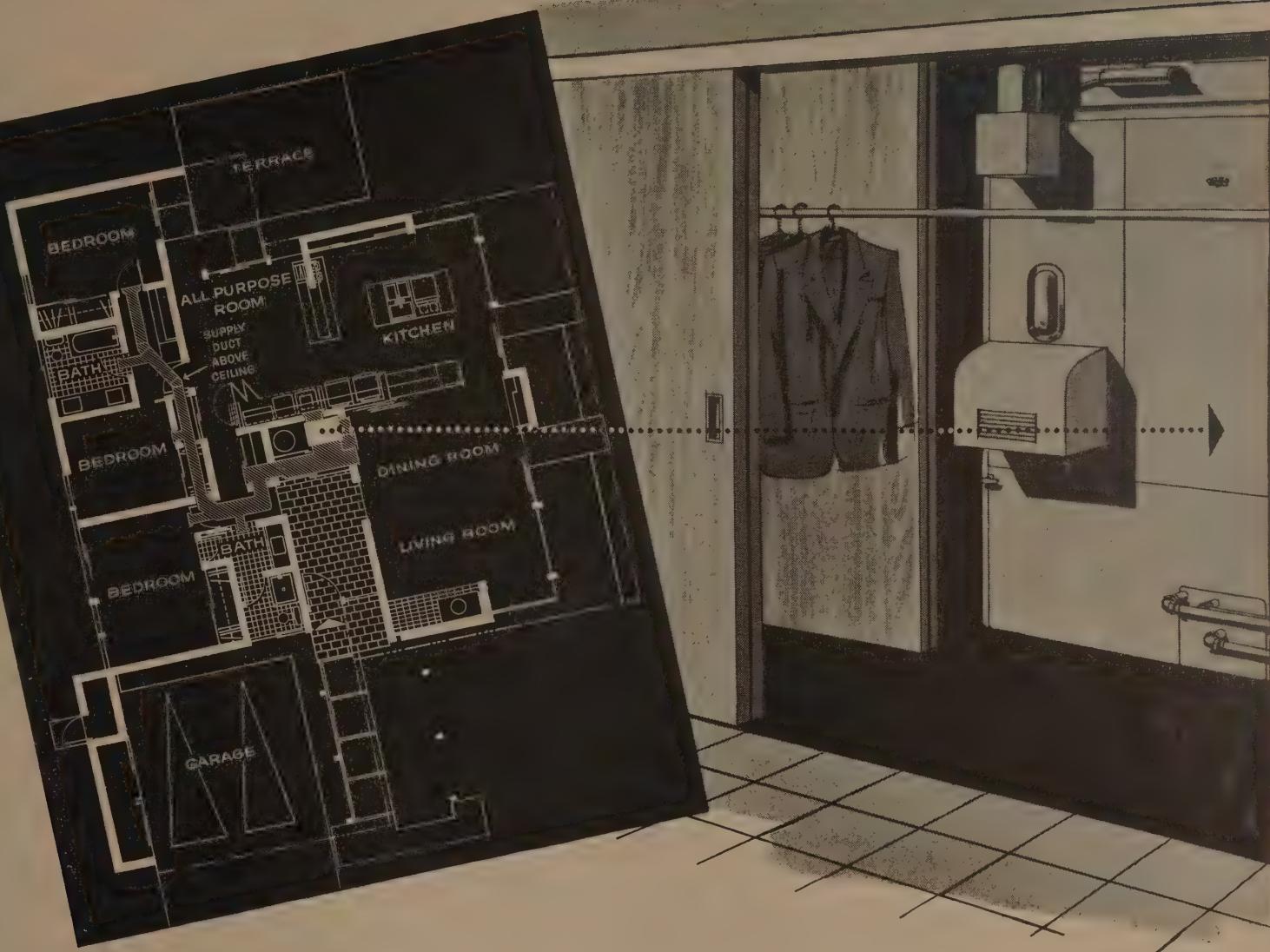
4. American Houses Inc.'s model: the molded parts would require no modification in room dimensions or equipment.



Scale: $\frac{1}{4}$ " = 1'-0"

5. Modern Home's Manor model: width would be extended by 1", room divided into two compartments, instead of one, lavatory basin added.

Frigidaire products for carefree living

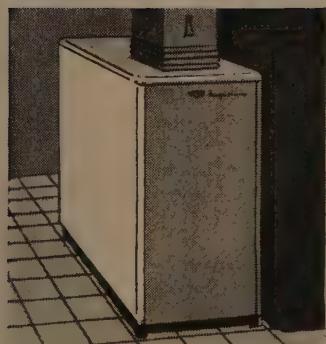


**Compact size and quiet operation make central location
ideal for Frigidaire Year-Round Conditioner**

Cools in summer—heats in winter

Because the Frigidaire Year-Round Conditioner is no larger than many furnaces alone it fits easily into today's more compact home plans such as the Jones and Emmons plan shown at left, above. It provides automatic heating and summer cooling in a single unit only 46" wide, 25" deep at the base, and 75" high. Easy to install almost anywhere, it adds the great convenience factor of air conditioning that now means a much greater sales value in any home.

Designed for basement, utility room or closet. Choice of gas or oil-fired models. Famous Frigidaire XD Meter-Miser Compressor supplies the cooling power in 2 and 3 ton capacities. Operates with air cooled, water cooled or evaporative condenser. Cushioned blower assures quiet operation. Large, efficient air filter removes dust, dirt and pollen.



Multi-matic Conditioner in 2, 3 and 5 ton capacities teams up with any forced air system or operates independently. Can be divided for remote and crawl space installations.



Frigidaire Room Conditioners are available for regular or casement windows in capacities from $\frac{1}{2}$ to 1 hp. These units are easily adapted for "through the wall" installation if desired.

Frigidaire



Built and backed by General Motors

MACO Metal All-Gable Louvers

Acclaimed
in 200-Home
Project

ARCHITECT

DONALD H. HONN
architect
4915 E. 26TH STREET
TULSA, OKLAHOMA
January 26, 1955

Mr. Robert Allen
Allen Wall Panel Co.
Bldg. T 1075, Baer Field
Fort Wayne, Indiana

Dear Bob:
The metal louver looks terrific. I am
excited about the possibilities it will offer
for treating the entire gable end with a con-
trasting color. It certainly answers a lot
of problems as to how to get ventilation and
still make it look like anything. It also
seems to answer certain problems financially.
Was pleased to hear about your Open
House and hope the weather breaks for you so
you can get an early start.

Very best regards,
Donald H. Honn, A. I. A.

DEVELOPER

ALLEN WALL PANEL CORP.
Phoenix Park, Division C
R. J. Allen
FORT WAYNE, INDIANA
April 26, 1955

The Maco Corporation
Huntington, Indiana
Gentlemen:
After All-Gable Metal Louvers were tentatively
approved for use in Lebrato Bros. Inc. and
Spacemaker Homes, Inc. 200-home project in Fort
Wayne, we submitted the date to our architect, Mr. Donald H. Honn, of Tulsa, Oklahoma, for his approval.

We are enclosing a copy of Mr. Honn's response,
and, as a result of his approval, we started
using All-Gable Metal Louvers in that project.

We are very well satisfied with the design and
construction of the louvers, with the ease with
which they are installed, and with the appearance
of the houses after installation. Customer
reaction has been good and we are certain that
the ventilation in the attic area will be im-
proved.

Very truly yours,
ALLEN WALL PANEL CORP.
Robert Allen
R. J. Allen



Made to your individual requirements of width and pitch. Complete insect and weather protection combined with ventilation from plate to rafter across entire width of house.

All-Gable metal louvers packed one set to carton, factory prime coated for easy installation and finish. Write, wire or phone today for complete details and quotation.



The

MACO CORPORATION

HUNTINGTON, INDIANA

FUSE POPPERS

Home electric systems often
won't handle big power load;
improvements are costly

By Ray Vicker
and Thomas Keller
Staff Reporters of The Wall Street Journal

Consolidated Edison Co. of New York received a plaintive letter from a customer who was having trouble with his newly-purchased room air conditioner.

"It seems that when the air conditioner is in operation, my television set stops playing," he wrote. "I face the peculiar choice of either watching television and sweltering, or being cool and missing out on a great deal of entertainment. It has been a bitter disappointment to me that I have not been able to be cool and be entertained at the same time."

Another letter to Con Ed in a less literary style read: "Is there anything to be done about the electric? When I use broiler, the television gets dim also when I use any other appliance for that matter. Please advise if anything can be done about it."

Wiring hopelessly inadequate

Both customers' homes, like 34 million others in the U.S., are wired for the electric power load of the 1920's and 1930's. Then, about the only appliances in use were toasters, irons and fans; lighting was the primary use for electricity.

Today more than 80% of all electrified dwellings in the nation aren't wired adequately for the appliances being used, according to the National Adequate Wiring Bureau. The National Electrical Manufacturers Assn. estimates that rewiring these homes represents a \$5 billion business potential over the next five years.

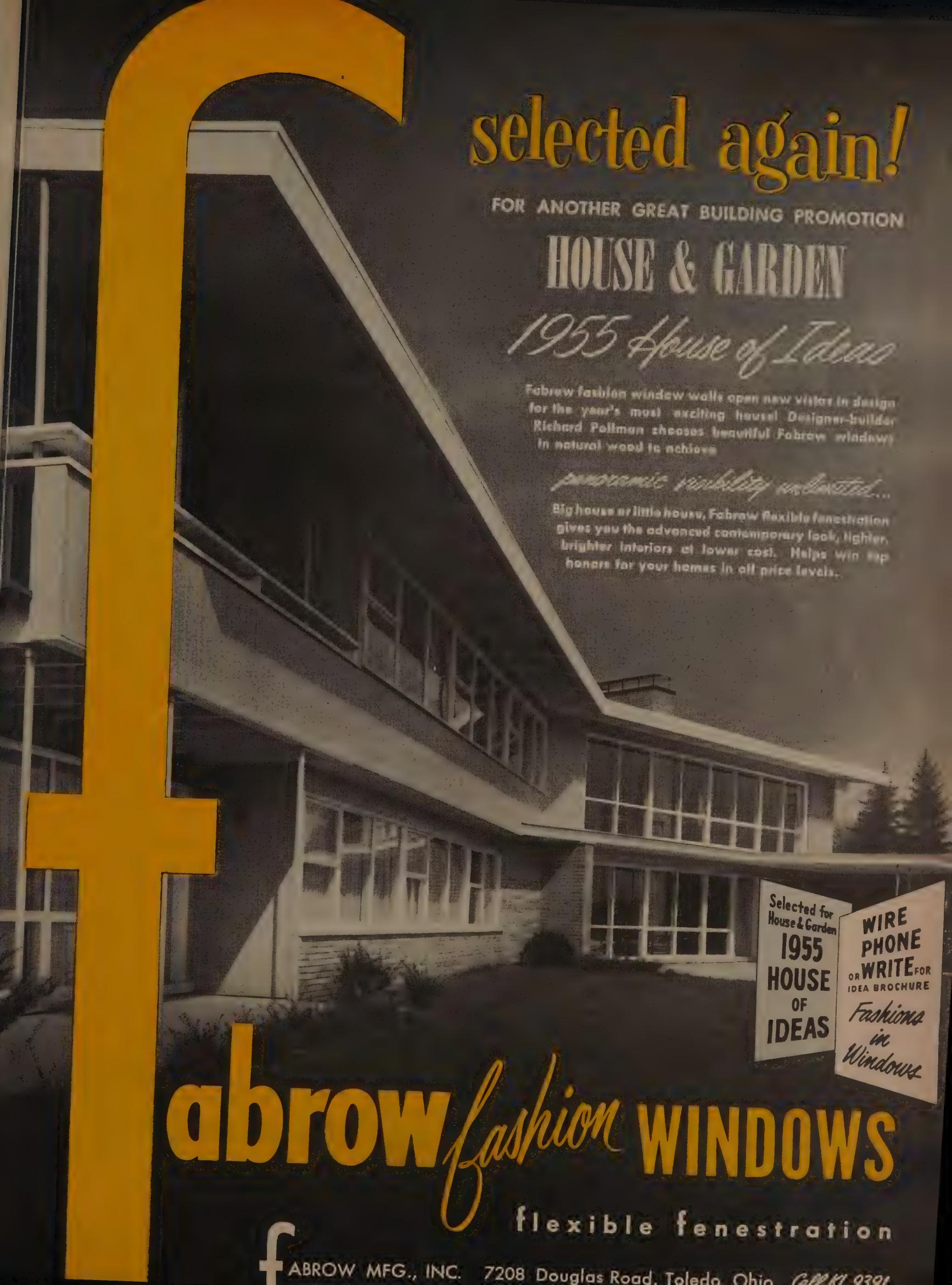
Many New York City apartment dwellers recently received notices that installations of air conditioners, washing machines, home freezers and similar appliances wouldn't be permitted in their buildings. Warns one notice: "The electrical lines cannot carry the extra load. Should the electrical lines become overloaded it may cause a blowout which will leave the building without elevator service or electric light."

Such notices mean lost sales for the electrical industry. That's why utilities are spending an average \$69,710 each on adequate wiring promotion this year, up sharply from \$41,641 last year, according to a survey by *Electrical World*, a trade publication. Commonwealth Edison is spending \$1 million this year in Chicago and northern Illinois alone.

More promotion spending

Anaconda and its affiliate, Anaconda Wire & Cable Co., expect to spend \$100,000 this year—the same as last—promoting wiring.

continued on p. 200



selected again!

FOR ANOTHER GREAT BUILDING PROMOTION

HOUSE & GARDEN

1955 House of Ideas

Fabrow fashion windows walls open new vistas in design for the year's most exciting houses. Designer-builder Richard Pollman chooses beautiful Fabrow windows in natural wood to achieve

provenie visibility enhanced...

Big houses or little houses, Fabrow flexible fenestration gives you the advanced contemporary look, lighter, brighter interiors at lower cost. Helps win top honors for your homes in all price levels.

Selected for
House & Garden
1955
HOUSE
OF
IDEAS

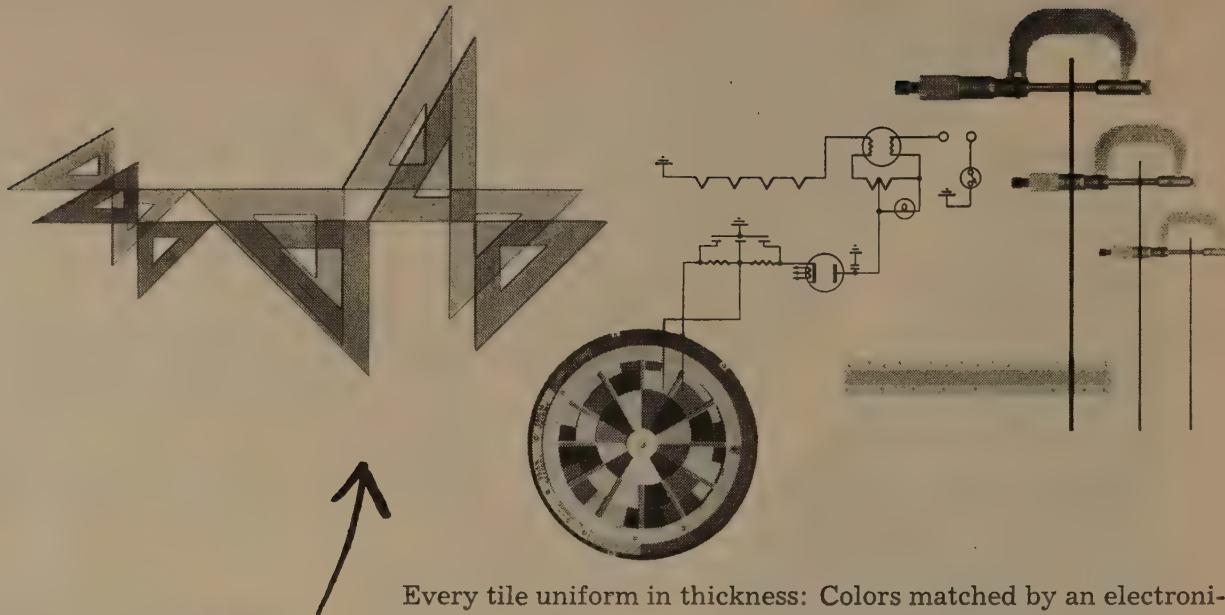
WIRE
PHONE
OR WRITE
FOR
IDEA BROCHURE
*Fashions
in
Windows*

abrow *fashion* WINDOWS

flexible fenestration



ABROW MFG., INC. 7208 Douglas Road, Toledo, Ohio. Call 411-9391



ALL THIS

Every tile uniform in thickness: Colors matched by an electronically-controlled "color eye". Constant checking that makes every tile a straight-edged square. These are typical examples of the quality control that helps produce the 10 different tile products of the entire Kentile, Inc. line. All this . . .

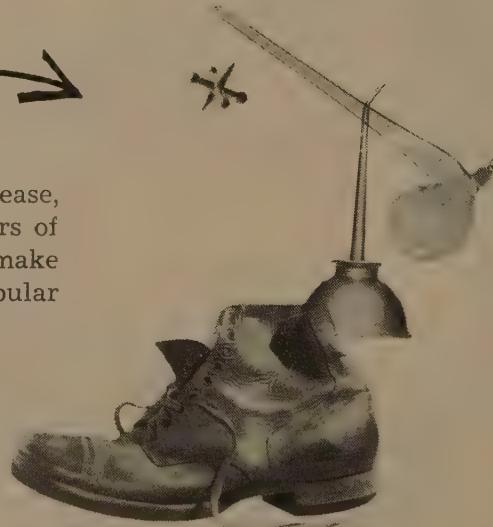
TO MAKE THESE

... as smart-looking, long-wearing and easy-to-maintain as modern know-how makes possible. In a word, there is a Kentile, Inc. product tough enough to . . .



TAKE THIS

Stand up under heavy traffic — resist grease, alkalies and other liquids — give long years of rugged service. These qualities combine to make Kentile, Inc. products the world's most popular line of resilient tile floorings.



KENTILE, INC.

*America's largest manufacturer
of resilient floor tiles*

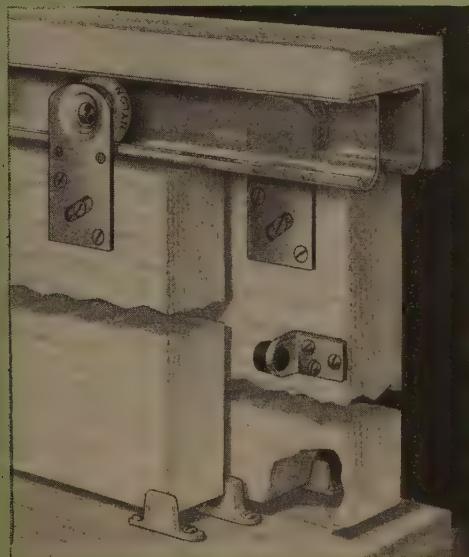
KENTILE: Asphalt Tile . . . Carnival . . . Corktone • KENCORK: Cork Tile for Floors and Walls • KENRUBBER: Rubber Tile • KENFLEX: Vinyl Asbestos Tile . . . Carnival . . . Corktone • ROYAL KENFLOR Vinyl Tile . . . CUSHION BACK KENFLOR Vinyl Tile . . . also available by the yard • SPECIAL KENTILE: Grease-proof Asphalt Tile • THEMETILE, KENSERTS: Decorative Inserts • KENCOVE: Vinyl Wall Base • KENBASE: Wall Base

National

SLIDING DOOR HARDWARE

Designed exclusively for smart interiors

**The modern
space-savers
for the office
as well as the
home. Doors
glide silently
with finger-tip
control.**

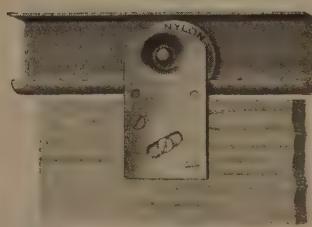


View showing complete assembly

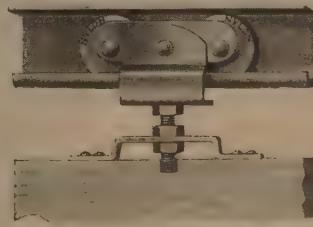


This innovation in swift, efficient door action follows the modern trend in architectural design. Each door glides into its own recessed pocket instead of out into the room like the conventional swinging door types.

Large Nylon wheels $1\frac{1}{8}$ inches in diameter carry the door load with ease and require fewer revolutions in operation. Wheels have solid rivet axle and all hardware is zinc plated. Track is 16-gauge Steel Hot Galvanized and fits all doors, regardless of thickness. Furnished in 44, 56, 60 and 68 inch lengths.



No. 182 Sliding Door Hanger



No. 185 Sliding Door Hanger

National

MANUFACTURING COMPANY

STERLING, ILLINOIS



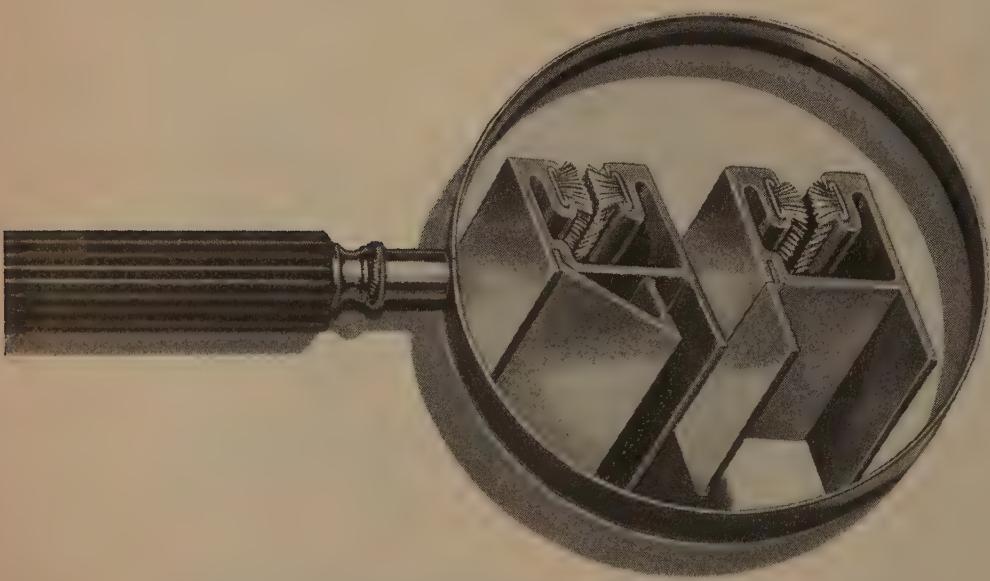
elementary...

... Such a practical idea we wonder why we didn't think of it sooner—Arcadia's new Interchangeable Moulding Strips.

Glazing still takes time, but with Interchangeable Moulding Strips it takes far less than by other methods.

Now, any Arcadia aluminum door can be glazed with either $\frac{1}{4}$ " plate or 1" insulating glass just by choosing the proper moulding strips. Takes no screws, special tools or skills to do a fast, neat job . . . moulding strips snap easily in place to save glazier's time. And that saves installation costs, boosts profits on every job.

Simplified glazing is just one important point of difference between Arcadia and other sliding glass doors. For complete details on Arcadia steel and aluminum doors, check your Yellow Pages for the name of your nearest Arcadia distributor.



ARCADIA METAL PRODUCTS • ARCADIA, CALIF.
Distributors in Canada, Puerto Rico, and throughout the United States. National Member Producers' Council, Inc., and National Association of Home Builders.

Help build a better America... See an architect

there's more to
arcadia
sliding glass doors
than meets
the eye

Kennecott Copper Corp. has spent \$500,000 in the last year, and expects to spend at least another \$500,000 this year in wiring promotion.

Walker L. Cisler, president of Detroit Edison Co., estimates that 700 billion feet of wire will have to be installed throughout the country in order to utilize the 248 million added kilowatts that will be installed by 1975.

A. F. Metz, chairman of Okonite Co. in Passaic, N. J., manufacturers of insulated wire and cables, figures the electrical industry potential like this: "Using a conservative \$150 average for a rewiring job, we estimate that over a five-year period, it would mean \$5 billion of electrical materials and labor. We estimate \$600 million a year will be expended for electrical construction in new homes, or \$3 billion in five years. If all these homes were adequately wired instead of conventionally wired, it would give us another \$500 million in plus business. Totaling these figures, we see a sales potential of \$8.5 billion for a five year period."

Goal of all the promotion is to convince the consumer that spending money for adequate wiring is a good investment.

The Electric Association of Kansas City now has two full time salesmen selling adequate wiring. All 28 of Arizona Public Service's sales people work part time on the program.

"Through newspaper and television advertising, folders, displays and other promotional media, we tell of the program and suggest what the home owner should do about it," says an official of Pacific Gas & Electric Co. in San Francisco.

Wiring on the cuff

Cincinnati Gas & Electric Co. has introduced a financing plan under which home owners can rewire homes and pay off the bill in installments along with the regular light bill. Through the past year and a half other utilities have taken the same tack, with one in every three now having credit plans.

Some utilities are offering discounts or extra services to persuade customers to rewire. Boston Edison Co. offers a special allowance of \$35 when a home is rewired in connection with the use of a 230-volt range, water heater, drier or air conditioner. A \$20 allowance goes to the builder who meets standards in a new home. Commonwealth Edison will install all outside equipment up to the meter when a Chicago customer rewrites; to the average home owner this means about \$35.

The National Electrical Contractors Association in Washington, D. C., is spending \$50,000 this year on field tests at Lynchburg, Va., and Springfield, Mass., to determine the potential of the rewiring market and how best to sell adequate wiring.

"We also designed and had the General Electric Co. manufacture an 'adequate wiring indicator' to be used as a sales tool," says George B. Roscoe, secretary of the association's business development committee.

continued on p. 202



General Controls Tempotherm Clock Thermostat and Famous T-70 Standard Slim Silhouette Model

POINTING THE WAY TO YEAR 'ROUND COMFORT...AUTOMATICALLY

*Experienced hands specify General Controls slim silhouette room thermostats
to make the best heating and cooling systems better.*

Top-flight architects and builders know that one of the most important specifications they make for a home is the room thermostat. That's why they so often prefer General Controls. They recognize the unseen beauty of the precision performance of a General Controls thermostat...its quick, sensitive response, its steady straight-line temperature

control. That's comfort! And for years ahead—that's satisfaction that keeps homes sold!

All homemakers start with a dream...and look to you to make it come true. They'll never have a rude awakening in a home where you provide General Controls for the comfort, safety, and convenience of living that is better...automatically!



GENERAL CONTROLS

America's finest automatic controls for the home, industry and the military

FIVE PLANTS • FORTY BRANCH OFFICES SERVING THE UNITED STATES AND CANADA

Appliance wattages

	150-300
	125-700
	100
	300
	1,650
	1,100
	1,100
	1,650
	1,200
	1,500
	4,500
	8,000-16,000

Get Faster Sales with the "Magic Ring!"



WASTE KING...
YOUR LOWEST COST, HIGHEST
QUALITY SELLING FEATURE

Look for the
New Blue
Super "Hush-Cushions"

1. Waste King attracts more home sales and rentals than any other visible feature costing up to five times more.
2. Waste King is now a household word that means greater convenience to every homemaker. Saves time, steps, and work by eliminating garbage electrically.
3. Waste King features exclusive Lifetime Grind Control for clogproof, longer service and exclusive Super "Hush-Cushions" for smoother, quieter, operation.
4. Waste King's service record is best in the industry... Less than 1% callbacks. Relieves the builder of past-sale complaints.



America's Finest Garbage Disposer

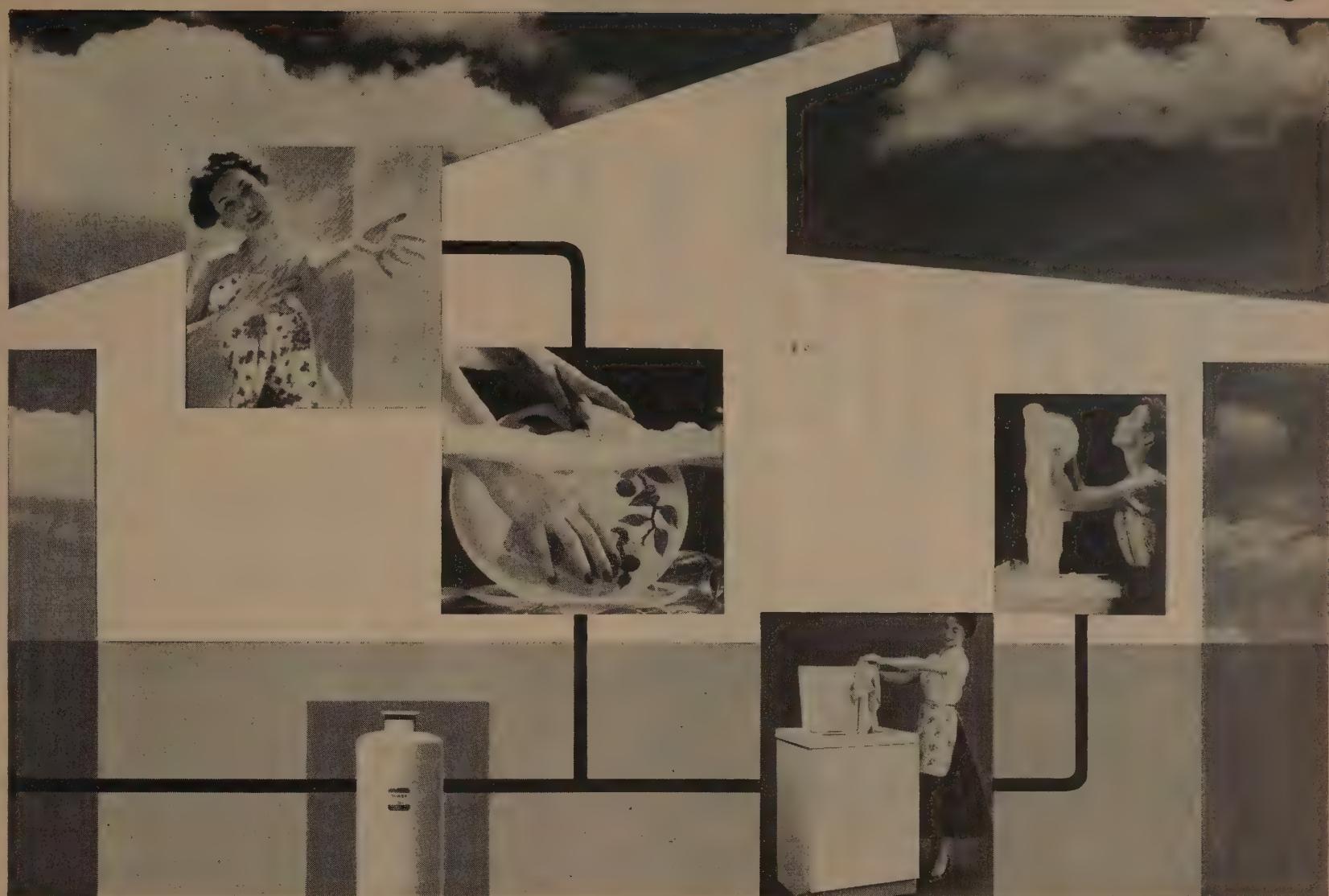


"The Eyes Buy the Visible Features"

A Product by Given Manufacturing Co., Los Angeles

In the '20s, when lighting was the primary use for electricity, a 3,600-watt system was adequate for most houses. Today, with appliance loads like these, 80% of electrified houses in the US are inadequately wired.

continued on p. 206



A WATER-SOFTENING APPLIANCE HELPS MAKE A HOUSE A "HOME"

Rain-soft water from every faucet—a "must" for the modern family.

Today, water is becoming more important and more people are becoming water conscious than ever before. Why? With many people moving from metropolitan to suburban housing areas, new and often hard water supplies are being developed.

There are many new water-using appliances in the laundry and in the kitchen which clearly emphasize hard water symptoms such as grey laundry—streaked dishes—bathtub ring—hair that's dull and hard to comb after shampooing, etc. Ordinary unsoftened water (i.e. hard water) causes these problems which are now being recognized by modern homemakers. But science and chemistry have found an answer. A modern water-softening appliance removes these common household problems for only a few cents a day.

Soft-water conscious new home buyers are looking for a water softener in their plumbing system—and 85% of the people in the United States need softened water. That's why modern builders, contractors and architects are either installing water-softening appliances in their housing projects and new homes or making provision for later installation by the home buyer.

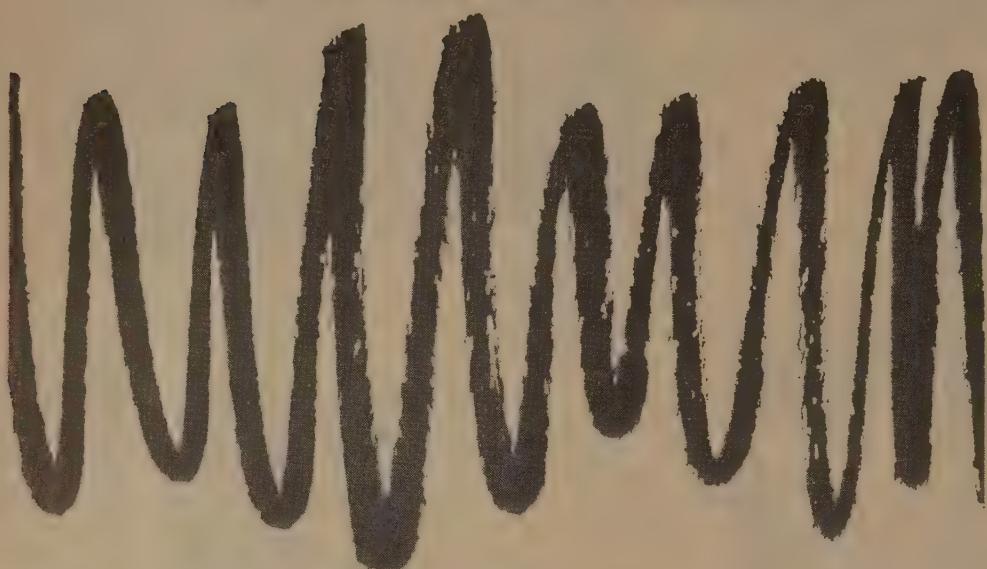
Water softeners can be permanently installed or obtained on a monthly service basis. Most of the finest water softeners contain DOWEX®, a high-capacity water-softening resin designed by Dow especially for use in home water softeners.

For further information and the names of equipment using DOWEX, write THE DOW CHEMICAL COMPANY, Midland, Mich., Dept. WS 1009A.

you can depend on DOW CHEMICALS



NO MORE "UPS AND DOWNS" IN TEMPERATURE...



when you install "Constant Comfort"

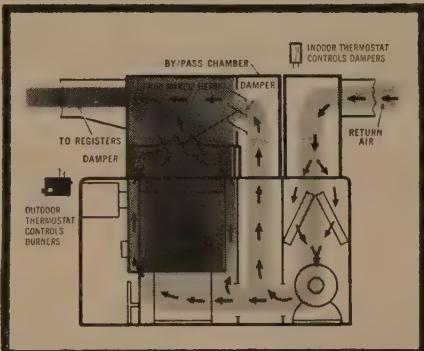
Waterbury *Comfortrol* BY PASS HEATING®

Helps sell any home faster!

Home buyers are asking more questions about comfort these days . . . and taking a closer look at heating plants, too. When you install new Waterbury COMFORTROL By/Pass Heating, you can promise constant comfort . . . a constant flow of air at "just right" temperature that eliminates the "hot-and-cold" feeling that comes with ordinary on-and-off heat.

No matter what kind of weather prevails outside, Waterbury COMFORTROL By/Pass Heating assures evenly-distributed comfort in every room in the house—with NO "layer-cake" heat, NO cold areas between you and the windows, NO hot or cold blasts! In fact, tests show less than one degree temperature variation between floor and ceiling with COMFORTROL!

Check into this new concept of home comfort. Install it! Talk about it to your customers! You, too, will find that Waterbury COMFORTROL By/Pass Heating sells homes!



HOW "COMFORTROL" WORKS:

The Waterbury By/Pass System divides the air returning from the rooms, heats part of that air . . . mixes hot and cold together again in just the right proportions called for by both outside and inside thermostats . . . then sends a constant flow of warm—not hot—air back into every room in the house.

Fuse poppers *continued from p. 202*

In 1953, 15 of every 100 air-conditioner units sold came back to dealers' shelves because wiring in the buyers' homes could not handle the added load, relates Lester E. Barrett, president of the National Association of Electrical Distributors, St. Louis. The percentage has dropped since because dealers now are discouraging shipping units to inadequately wired homes.

Sales lost daily

"Range, water heater, drier and room air-conditioning sales are being lost every day due to lack of proper wiring in the homes of people who are prospects," says J. P. Brown, manager of residential sales of Alabama Power Co. in Birmingham.

Elmer L. Lindseth, president of Cleveland Electric Illuminating Co., estimates that if only 10% of the inadequately wired dwellings were rewired, it would add a \$2 billion appliance sales potential. To utilities it would mean an additional \$300 million in residential electricity sales annually, he adds.

"The wiring systems in most homes are like the single-lane, dirt roads of yesterday—built for horse-and-buggy travel and not at all suitable for the heavy automotive traffic of today," says John W. Evers, president of Chicago's Commonwealth Edison Co. "The copper highways in most homes, in fact in most occupied buildings, are single-lane roads where today's electrical traffic is concerned."

The problem is general throughout the country. Detroit Edison Co., for example, reports that 800,000 of its 1,026,024 residential and farm customers need some type of additional wiring.

"In 1930 there were 19 different electrical appliances," recalls J. M. McKibbin, Westinghouse Electric Corp.'s consumer products vice president. "In 1940 there were 36; by the end of 1954, a total of 56 appliances were on the market."

Adding them up

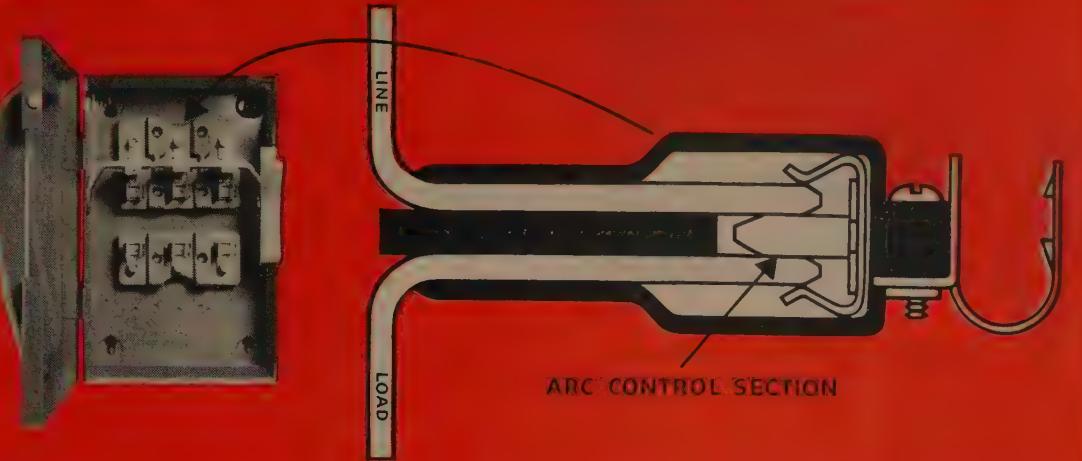
No home maker, of course, would have light bulbs and nothing else on his wiring system. Some figures prepared by Kennecott Copper show typical wattages of various appliances. Adding up the wattages determines how many or what kinds of appliances could be operated at once.

Some appliance wattages: floor lamp, 150, 300; vacuum cleaner, 125-700; radio, 100; TV set, 300; ironer, 1,650; toaster, 1,100; coffee maker, 1,100; broiler, 1,650; room air conditioner, 1,200; dishwasher, 1,500; electric clothes drier, 4,500, and electric range, 8,000 to 16,000. By and large, cooking and heating appliances take the most power. Lighting units take the least.

An even simpler way of telling whether a home is inadequately wired, say industry spokesmen, is just to watch whether lights dim when another appliance is turned on—or whether the picture on the TV screen contracts and expands when the refrigerator motor goes on.


WORLD FAMOUS **Waterbury**
FURNACES AND AIR CONDITIONERS

THE WATERMAN-WATERBURY COMPANY ★ MINNEAPOLIS 13, MINNESOTA



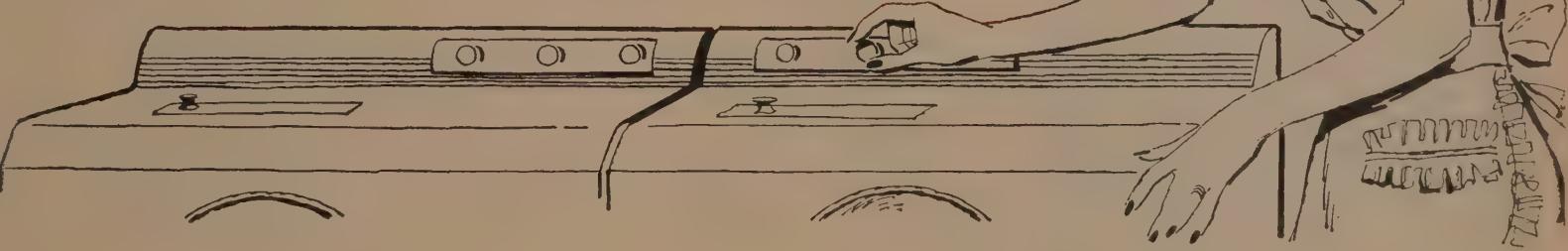
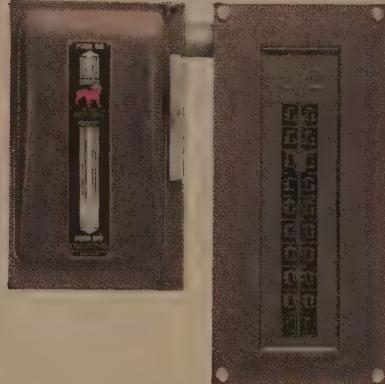
VACU-BREAK CHAMBER IN SAFETY SWITCH SNUFFS OUT DANGEROUS ARCS—Switch never needs maintenance, is attractive, streamlined, easy to install. Provides safe, positive main disconnect for every circuit in the house.



DUO-GUARD® PUSHMATICS give double convenience, double protection! A "push" restores service.

COMBINE BULLDOG ELECTRI-CENTERS WITH BULLDOG SAFETY SWITCHES FOR 100-amp service 100-amp protection

IN ALL YOUR HOMES!



**ADEQUATELY WIRED,
COMPLETELY PROTECTED
HOMES SELL FASTER!**

You can't miss when you standardize with BullDog! Your homes will be equipped with the most flexible, most convenient circuit protection available—Pushmatic Electri-Centers® and Vacu-Break Safety Switches®.

The Pushmatic Electri-Center, for instance, safeguards all branch lighting circuits and all 110-220 volt appliance circuits in one attractive panel. What's more, its push-button convenience is a feature that really sells prospective buyers. And, when used with a BullDog Vacu-Break Safety Switch, the Electri-Center can be

located anywhere in the house for the convenience of the home owner. That's because the Vacu-Break Safety Switch operates as a main disconnect—providing full 100-ampere protection for the service cable.

Your homes will sell faster when you offer the features buyers look for—and buy for! Install BullDog Pushmatic Electri-Centers and Safety Switches for 100-amp capacity—fully protected—to handle present and future requirements. Listed by UL. Contact any Qualified Distributor or Contractor. Or, write: BullDog Electric Products Company, Detroit 32, Michigan.

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IF IT'S NEW
... IF IT'S DIFFERENT
... IF IT'S BETTER . . . IT'S



BULLDOG

ELECTRIC PRODUCTS COMPANY
A Division of I-T-E Circuit Breaker Company

Export Division: 13 East 40th Street, New York 16, New York. In Canada: BullDog Electric Products Company (Canada), Ltd., 80 Clayton Road, Toronto 15, Ontario.

**manufacturer
architect
builder
buyer**

**all win
with quality
extrusions**



For the name of the manufacturer of this railing, write our Sales Department.

Four Harvey Extrusions . . . top rail, bottom rail, posts, and spindles . . . make up this modern railing. Needing only cutting to length and drilling, the extrusions are practically finished parts as received from the mill.

To the architect and builder, the railing spells genuine quality, an item safe to recommend to their clients. To its manufacturer, the railing represents a combination of high sales volume and lower manufacturing cost. All-in-all, another example of how Harvey Quality Extrusions add up to an ideal material for your architectural products.

Send today for our latest brochure, "Aluminum Extrusions."

MAKING THE MOST OF ALUMINUM . . . FOR EVERYONE

HARVEY
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HARVEY ALUMINUM SALES, INC.
TORRANCE, CALIFORNIA
BRANCH OFFICES IN PRINCIPAL CITIES

RESEARCH . . . DEVELOPMENT . . . PRODUCTION . . . Harvey does all three as a leading independent producer of aluminum extrusions in all alloys and all sizes, special extrusions, press forgings, hollow sections, structurals, rod and bar, forging stock, pipe, tubes, impact extrusions, aluminum screw machine products and related products. Also similar products in alloy steel and titanium on application.

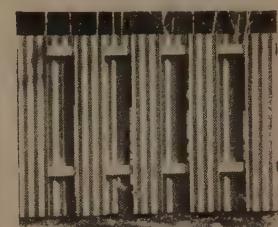


This tag or label on your product helps stress quality design and construction. Write to us and learn how it can aid your sales and merchandising.

**NEW
PRODUCTS**

continued from p. 174

for further details check numbered coupon p. 274



eliminates handling precautions needed for more brittle materials.

Corrugated *Economy 250* is a lightweight version of the familiar industrial material which can now be used residentially as a roofing or siding. Panels are 42" wide (10 corrugations), $\frac{1}{2}$ " thick, and weigh $2\frac{1}{4}$ lbs. per sq. ft., compared with the 4 lb. industrial panel. The wavy, gray sheets come in lengths from 3' to 10', and are fastened to studs or sheathing with annular grooved nails equipped with a lead washer, and sealed with mastic (nails are furnished with panels).

Ridge rolls and corner rolls, pointed up with asbestos-cement mix, give full weather protection at these junctures when the material is used as a roofing, and no finishing is required. No underdecking or weatherproofing are required, though any insulation may be used beneath the panels.

Price: *Flexboard*: $\frac{1}{8}$ ", approximately 12¢ per sq. ft.; $\frac{1}{4}$ ", 20¢ per sq. ft.

Economy 250: 25¢-35¢ per sq. ft.

Manufacturer: *Flexboard*: Johns-Manville
22 E. 40th St.
New York 16, N. Y.
Economy 250: National Gypsum Co.
325 Delaware Ave.
Buffalo 2, N. Y.



c. REDWOOD PLYWOOD PANELING is vertically grooved; may be used inside or out

The weather-and-insect resistance of redwood is an added quality of *Malarkey Rusticwood*, a vertically grooved plywood panel designed for both exterior and interior use. Contrary to its *Rusticwood* trade name, the panel fits easily into contemporary design,

continued on p. 210

*introducing
the new*

pryne

model "200"



now...a low cost,
10-inch Blo-Fan



The answer to 10" fan requirements where price can be a factor! Ideal for large and small volume contractors and builders who want to combine economy with quality craftsmanship and superb performance!

New #200 Blo-Fan is midway between the famous Pryne #210 and the #208 in power and volume. It can be installed with or without standard 3-speed controls. Also features Pryne's popular simplified installation and "no call back" service!

there's MORE PROFIT with...



...for Proof, WRITE TODAY!

**only Blo-Fan
has this blade!**

A Pryne exclusive design! Scoops up smoke and odors and immediately redirects their discharge thru horizontal duct in continuous stream... eliminates back-wash "bottleneck" for greater efficiency.

**PLUS these
star performance
features!**

- ★ Exclusive combination blower-and-propeller fan blade!
- ★ Lifetime Neoprene mountings for "whisper quiet" operation.
- ★ Fits between floor joists or studding; needs only 3 1/4" behind plaster.
- ★ Ducts thru roof or joist area via wall, cabinet or soffit.
- ★ Built-in shutters to prevent back drafts.
- ★ Polished chrome grills.
- ★ No tools needed to remove fan and motor assembly for cleaning.
- ★ Backed by 5 year guarantee.

A Blo-Fan for every need

#200	950 CFM	3 speed*	89 watts
#206	500 CFM	3 speed*	38 watts
#208	750 CFM	3 speed*	58 watts
#209	750 CFM	3 speed*	58 watts
#210	1200 CFM	9 speed	136 watts

*3-speed switch optional as extra equipment.
9-speed control standard on #210 only.

pryne

HB9

PRYNE & CO., INC.
BOX 698, POMONA, CALIF.

Please send more information about the new #200 Blo-Fan...and how I can make more profit with Pryne.

Name _____

Company _____

Street _____

City _____ Zone _____ State _____

plan for CULLIGAN soft water IN YOUR MODERN NEW HOME!



Four million people daily enjoy the benefits and economies of Culligan Soft Water. It's better to live with, better to work with. Every member of the family enjoys the luxury of clear, filtered, sparkling soft water . . . delightful for bathing, kind to the skin, marvelous wherever water is used in the household.

Today's modern home is designed for soft water

Just as with wiring the modern home for electrical appliances, designing the plumbing for water conditioning makes it real easy for a householder to install water conditioning equipment where it is needed. You see, a lot of the water for household use (such as lawn sprinkling) does not require conditioning. By designing the plumbing system in advance, a water softener can be attached to provide clear, filtered, sparkling soft water wherever it is needed . . . in the kitchen sink, in the bathroom, and in the laundry. By planning for Culligan Soft Water, the sales appeal of tomorrow's home can be greatly increased throughout America's vast hard water areas.

Water conditioning consultant service at your request

See Architectural File 27 b/Cu, Sweets Catalog for detailed information about Culligan products and services. The engineering and research staff of the Culligan Soft Water Institute, as well as its laboratory facilities are available upon request through your local Culligan Dealer.

SOFT WATER WORKS WONDERS ALL THROUGH THE HOME

Culligan®
the greatest name in water conditioning

CULLIGAN, INC., Northbrook, Illinois
Gentlemen: Please send your new fact and data folder for architects and builders. There is no cost.

Name _____
Firm _____
Address _____
City _____ Zone _____ State _____



VISIT THE
CULLIGAN EXHIBIT
AT THE
NATIONAL HOUSING
CENTER,
WASHINGTON, D.C.

NEW PRODUCTS

continued from p. 210

for further details check numbered coupon p. 274



and the shiplap joints are hidden by the $\frac{3}{8}$ " grooves each 4" o.c.

Since every fourth groove is 16" apart, it is easy to locate studs for nailing, and because nails can be hidden in these channels, no puttying is needed. There is an apparent texture to the face, for wire-brushing has removed some of the softer wood to expose the grain.

All glues are the weatherproof exterior grade, and any of the usual decorative finishes given to redwood may be applied.

Price: 38¢ per sq. ft.

Manufacturer: M and M Woodworking Co.
2310 N. Columbia Blvd.
Portland, Ore.



d. NYLON REINFORCEMENT increases strength of translucent plastic panels

Continuous nylon strands add extra "backbone" to Filon glass fiber reinforced polyester panels, giving the colorful panels enough strength to support a 200 lb. per sq. ft. load over an unsupported 4' span.

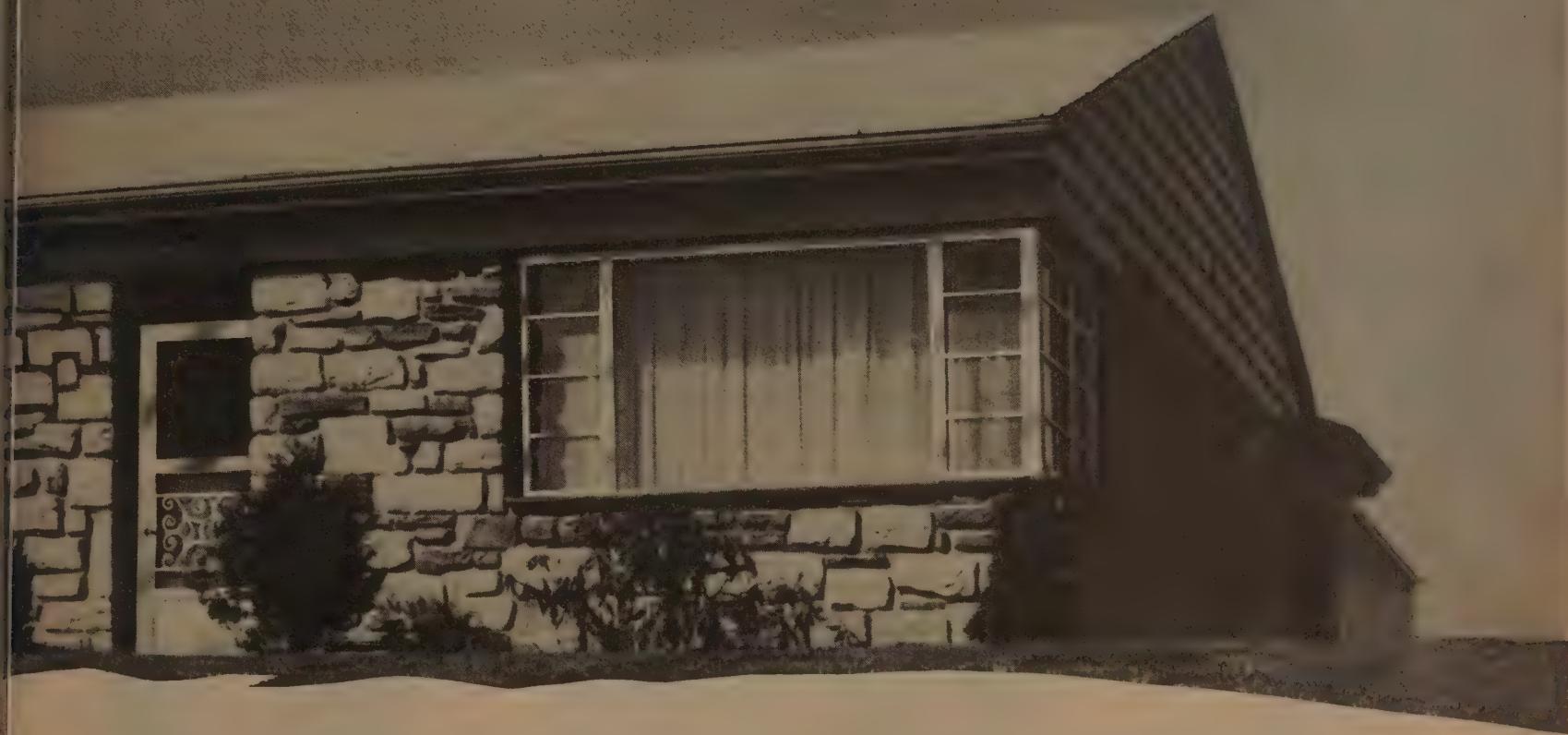
An electronically controlled production process turns out continuous paneling which can be cut to any manageable length (in widths to 42"). These longer than standard sheets can often eliminate end laps, with attendant labor saving and improved appearance. Finishes may be smooth or crinkled, and there are 20 different colors in the two weights (6 oz. and 8 oz. per sq. ft.).

Price: 65¢-85¢ per sq. ft.

Manufacturer: Filon Plastics Corp.
2051 E. Maple Ave.
El Segundo, Calif.

continued on p. 218

ALUMINUM WINDOWS



"The non-painting feature alone would be enough to sell the window to any conscientious builder," writes J. P. Megill. Read his letter in full. See why he backs up his choice of Reynolds Aluminum Windows by using 1,400 throughout his latest development—with more to come.

These are Reynolds Aluminum casement windows and casement-picture combinations. They are distinguished by their "satinized" finish and by many superior Reynolds design features: watertight lip, continuous transom drip rail,

flash-welded corners, efficient roto-operator, cam-and-lever lock.

In addition to this popular casement, Reynolds Aluminum Windows are produced in the following types: Traverse (horizontal sliding), Double-Hung, Awning, Basement and Utility. All have the beauty and maintenance-free advantages of aluminum, with quality controlled by Reynolds from prime metal to final assembly. Write for complete catalog. **Reynolds Metals Company**, Window Division, 2019 South Ninth St., Louisville 1, Ky.



HIGH MARKS OF QUALITY...AT LOW COST!

REYNOLDS *Lifetime* ALUMINUM GUTTERS AND FLASHING

The gleam of aluminum along the eaves, in roof valleys and at chimney base spells Quality to homebuyers everywhere. Specify Reynolds Lifetime Aluminum Gutters in Ogee and Half-Round styles, smooth and stipple-embossed finish...flashing in coils and flat sheets.



ALUMINUM BUILDING PRODUCTS



A land-drainage installation of perforated Perma-Line pipe on the J. L. Shannon estate near Detroit. Photo Courtesy Superior Tank Company.

Sewers go in faster with L-M Perma-Line

Perma-Line is a bituminized-fibre general-purpose pipe. Long lengths and tapered drive-on couplings make installation simple and economical. The pipe is light and strong, easy for men to handle.

Joints are leak-proof and don't attract roots. Joints need no cementing or calking. Perma-Line can't rust, doesn't shatter. It lasts as long as the best of other kinds of pipe.

Perma-Line offers marked savings to builders and protection for owners. It's suitable for sewers and drains. The *perforated* type is used for septic tank beds and land drainage. A full line of fittings, couplings, and adapters is available.

Any good bituminized-fibre pipe offers many advantages over older materials. We think L-M Perma-Line has advantages over other brands. Mail the coupon or ask your plumbing distributor to get in touch with us.



Perma-Line is installed quickly. Several 5, 8, or 10-foot lengths can be joined, then laid into the trench and tapped onto the line.

PERMA-LINE® Pipe



LINE MATERIAL COMPANY
(a McGraw Electric Company Division)

223

LINE MATERIAL CO.
Milwaukee 1, Wisconsin

HH65

Name _____

Firm _____

Address _____

City & Zone _____ State _____

Please send me full information about Perma-Line pipe and name of nearest distributor.

Architect Builder Dealer

NEW PRODUCTS *continued from p. 214*

for further details check numbered coupon p. 274

e. WOOD WINDOWS can be combined into any pattern of fixed or ventilating units

Individual windows, ribbons, or stacked window walls can all be formed with the *Malt-A-Vent* units. These units are available in both fixed and operating models to provide any ventilation pattern the design of the house calls for. The operating units open a full 90%.

Self-aligning *Malt-A-Vents* can be stacked in any desired combination because both the frame members and the sill are grooved to receive a $\frac{1}{2}$ " to $\frac{3}{4}$ " parting stop. This stop serves as an aligning spline to insure perfect accuracy in lining up joined units. Double glazing is made possible by an extra stop, and the sash itself is milled from 2" Western pine dimensioned stock, chemically treated to resist rot or damage by insects. Metal weatherstrip contacts the sash at all points.

Windows are shipped fully assembled and two to the carton, glazed and with locking pulls



Varying thickness of walls can be compensated for through removable splines that fit into grooves in the frame members.

and hinges installed. A convenient bar opener is available as optional equipment.

Double-hung *Malt-A-Matic* window units have removable sash for convenience in painting and cleaning. What this means is that it is simple to paint the frames or wash the sash inside the house without recourse to a step-ladder, thus eliminating a serious source of home accidents.

Two special jamb liners make it possible for *Malta* windows to be used in walls ranging in thickness from $4\frac{1}{2}$ " to $5\frac{1}{4}$ ". Each liner, as it is removed, reduces the thickness of the sash by $\frac{3}{8}$ ". Liners meet all local building code requirements and all FHA requirements.

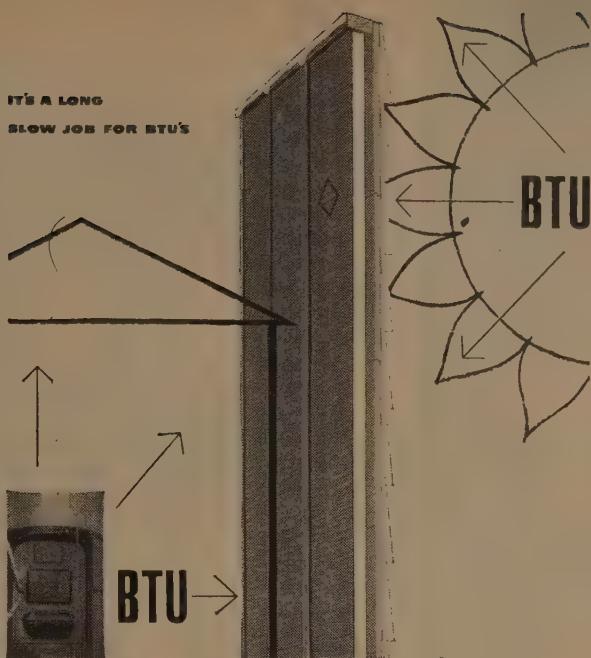
All *Malta* windows are fully modular.

Price: *Malt-A-Vent*, 36" x 18", \$11.70 with hardware, \$8.70 fixed; screen, \$4.89; *Malt-A-Matic*, \$26.11.

Manufacturer: The Malta Mfg. Co.
Athens, Ohio

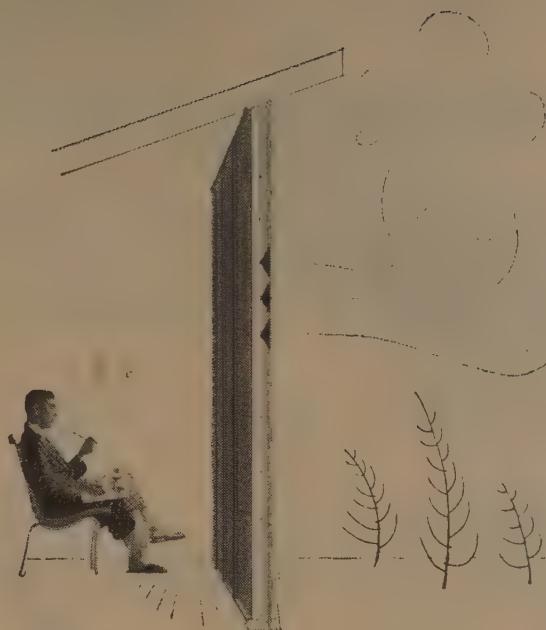
continued on p. 222

IT'S A LONG
SLOW JOB FOR BTU'S



Is its "K" factor low?

It takes more than one hour for one-quarter of one Btu to pass through one inch of Balsam-Wool one foot square. The low "K" factor of Balsam-Wool means less heat loss in winter and small heat gain in summer.



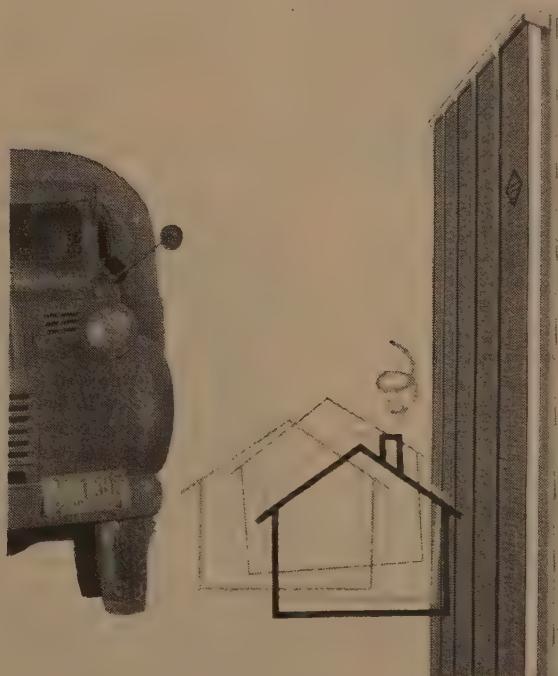
Is Balsam-Wool windproof?

Wind penetration through Balsam-Wool in a frame wall is less than .000203 cubic foot per square foot per hour. Balsam-Wool's sturdy liners provide positive protection from chilling drafts.



Is there an efficient vapor barrier?

A tough, asphalt-saturated, warm-side liner is an integral part of this sealed insulation, and a cold-side liner reduces convection through the insulating mat. Balsam-Wool exceeds government requirements for a vapor barrier.



Is it vibration-proof?

Every house vibrates...and some insulations respond by packing down. Balsam-Wool stays in place as originally applied—its felted fibers are bonded together—then the insulation mat is cemented to its coverings.



Plus Balanced Insulation. With Balsam-Wool* Insulation, Nu-Wood* Sheathing, weather-stripping, storm sash, attic fan or air conditioning and proper ventilation, you can provide balanced insulation for complete winter-summer comfort and economy.

WOOD CONVERSION CO., Depl. 236-95, First National Bank Bldg., St. Paul 1, Minn.

for further details check numbered coupon p. 274

When You Build **ADMIRAL HOMES**



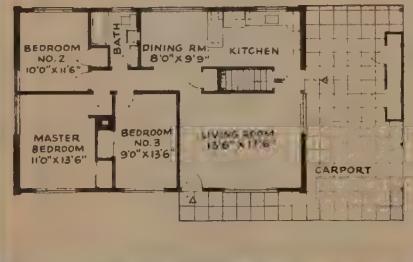
YOU SELL

Beauty....

Livability....

Spaciousness....

Flexibility of design....



- with**
- **ASSURED PROFITS**
 - **LESS OVERHEAD**
 - **FASTER STARTS**
 - **QUICKER COMPLETIONS**
 - **PREDETERMINED COSTS**

Give your customers what they're looking for—a beautiful home with spacious rooms, designed for modern living. Architect-designed Admiral Homes are available in 28 different conventional and contemporary styles, with hundreds of variations.

If you are a builder within a 500-mile radius of Pittsburgh, Pa., who plans to construct 10 or more homes a year, write, wire or phone today and get the complete facts on Admiral Homes and how they can help you reduce your overhead and assure larger profits in your building operations.



General Offices—
300 Mt. Lebanon Blvd.
Pittsburgh 34, Pa.
Locust 3-0090

f. **HINGED RANGE TOP** lifts up for cleaning, fits standard base cabinet

Standardization in the kitchen gets a boost from Chambers new *Liftop* gas burner unit which fits into the same standard base cabinet as their built-in wall oven. In addition, the four-burner unit is hinged at the rear, so that drip pans beneath burners, the burners themselves, and an aluminum subbase lift right out for cleaning.

Front and side panels are of stainless steel or of Chambers' *Copperlux* finish. Both the base-fitting size and the hinged top feature have been incorporated into Chambers' recently announced electric range line.

Price: \$160

Manufacturer: Chambers Corp.
2464 N. Meridian St.
Indianapolis, Ind.



g. **MIXING FAUCET** controls volume and temperature with one valve

The convenience and sleek styling of single-handle mixing faucets is consistently appealing to the woman buyer, because the one hand operation always leaves the other free for tasks. Moen's units are made for all types of sinks, basins, tubs and showers, and permit "dialing" of both water temperature and volume. Installation is exactly the same as with conventional faucets.

Price: From \$17.90 (shower) to \$36.45 (dishwasher faucets)

Manufacturer: Moen Valve Co. Div.
Ravenna Metal Prod. Corp.
6518 Ravenna Ave.
Seattle 15, Wash.

continued on p. 226

PRESSURE TIGHT!

A radiant heating system of
Chase® Copper Water Tube
protects your reputation!

Once you install a radiant heating system of Chase Copper Water Tube, you can be sure it's installed *for good!*

Because Chase Copper Water Tube comes in long lengths of 60 to 100 feet, fewer fittings are required — a feature that means easier installation plus a *truly* pressure-tight system!

What's more, the few fittings required are the most leak-proof known — they're solder joints — made with Chase Solder-Joint Fittings. One *more* reason why you can depend on a radiant heating system of *Chase* products!

For more information, write today for the free Chase Radiant Heating Booklet.

Chase
BRASS & COPPER CO.



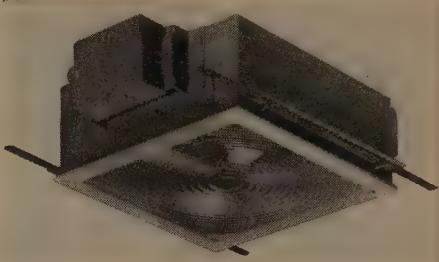
The Nation's Headquarters for Brass & Copper

Albany†	Chicago	Detroit	Los Angeles	New Orleans	Rochester†
Atlanta	Cincinnati	Grand Rapids†	Louisville†	New York	St. Louis
Baltimore	Cleveland	Houston	Milwaukee	Philadelphia	San Francisco
Boston	Dallas	Indianapolis	Minneapolis	Pittsburgh	Seattle
Charlotte†	Denver	Kansas City, Mo.	Newark	Providence	Waterbury

WATERBURY 20, CONNECTICUT • SUBSIDIARY OF KENNECOTT COPPER CORPORATION

**NEW
PRODUCTS** *continued from p. 222*

for further details check numbered coupon p. 274



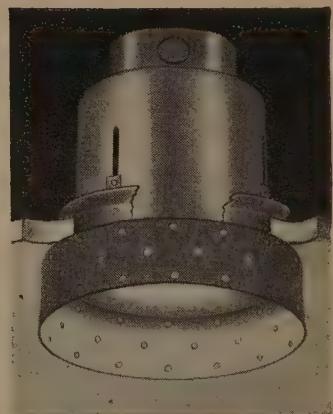
h. LIGHTING UNIT is exact size of one acoustical tile, eliminates cutting

Ceiling tiles have long been standardized, and a new recessed lighting fixture takes the 12" x 12" tile size as its own module so that no cutting or fitting of acoustical tile need be done around the light.

The *Marco* unit can now be blended into any tile pattern, butting against the adjacent tiles (a 13" x 13" frame is available if overlapped joints are desired). Light is reflected by a specular aluminum reflector, with a choice of three Corning lenses. Frames are hinged for easy replacement of incandescent lamps.

Price: \$21.90 or \$31.55, depending on lens

Manufacturer: Marvin Mfg. Co.
3071 E. 12th St.
Los Angeles 23, Calif.



i. RECESSED FIXTURE can be used even on low ceilings; light source is shielded

Utilizing a perforated flange that extends below the finished ceiling like a skirt, Litecraft's *Skirted Hi-Hat* is intended to solve the problem of lighting an area restricted by a low ceiling.

The ventilated aluminum housing is recessed into the ceiling as usual, with the perforated flange extending 2" or 3" (beveled or straight), casting some light on the ceiling, and offering better shielding of the light source than that provided by conventional recessed lights.

Price: \$9.15-\$11.75

Manufacturer: Litecraft Mfg. Corp.
8 E. 36th St.
New York 16, N.Y.

continued on p. 227

**CUT
APPLICATION
COSTS
with**

**GENUINE
DOUGLAS FIR PLYWOOD
PLYSCORD[®]**

INTERIOR TYPE GRADE C-D

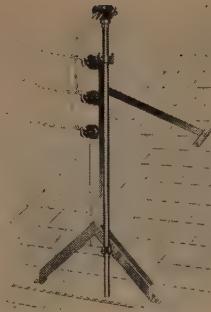
SHEATHING



● **SAVE** up to 50% on application costs using time-tested PLYSCORD sheathing. Walls sheathed with PLYSCORD are up to twice as strong. On roof decking, PLYSCORD won't shrink or swell; the finish roofing won't be damaged by buckling. PLYSCORD subfloors provide a smooth, level working platform—firm, cup-free, squeak-free. Remember: PLYSCORD!



INSIST on DFPA trademarked fir plywood! EXT-DFPA and PLYSHIELD for outdoor use . . . PLYPANEL for paneling, built-ins . . . PLYSCORD for sheathing . . . PLYBASE for underlayment . . . PLYFORM for concrete form work. Other grades for other uses.



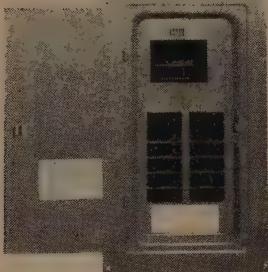
j. ELECTRIC SERVICE BRACKET is designed for one-story houses

Electric utilities and the National Code demand that service lines enter houses at a safe height of at least 10', but eaves on one-story houses are invariably lower than this. A new all-welded steel service bracket bolts to rafters to provide ample height, with enough mechanical strength to support the weight of heavy service lines.

The triangular legs are spaced so that each rests upon a rafter, and the back leg can be adjusted to any roof angle. Insulators are spaced to National Code standards, and entrance fittings and lag screws are included.

Price: 29", \$10.75; 58", \$18.50

Manufacturer: Utility Service Co.
921 13th St.
Racine, Wis.



k. LOAD CENTER provides 12 circuits and 100-amp. main breaker capacity

With NAHB and Adequate Wiring Bureaus endorsing the 100-amp. service capacity for all new houses, General Electric's newest residential load center provides for such high-powered facilities.

Rated for use with 100-amp., 120/240 v. AC, single-phase, three-wire service, the 12 circuit load center encloses the main disconnect breaker as well as the branch circuit breakers, eliminating a separate main entrance switch. The wired-in main breaker protects all line wires from short circuits and heavy overloading.

The spring mounted interior snaps out without tools to allow extra working space for pulling wires into the box. When snapped back, it holds breakers securely.

Price: \$57 (list)

Manufacturer: General Electric Corp.
Trumbull Components Dept.
41 Woodford Ave.
Plainville, Conn.

continued on p. 234

IT'S NOT
THE SAME
WITHOUT THE
NAME

INSIST
ON THIS
GRADE
TRADEMARK

GENUINE
DOUGLAS FIR PLYWOOD

PLYSCORD®

INTERIOR TYPE GRADE C-D

SHEATHING

DFPA TESTED QUALITY

EXT-DFPA TESTED QUALITY

PLYSHIELD TESTED QUALITY

PLY/PANEL TESTED QUALITY

PLYSCORD TESTED QUALITY

PLYBASE TESTED QUALITY

PLYFORM TESTED QUALITY

INSIST on DFPA trademarked fir plywood! EXT-DFPA and PLYSHIELD for outdoor use... PLYPANEL for paneling, built-ins... PLYSCORD for sheathing... PLYBASE for underlayment... PLYFORM for concrete form work. Other grades for other uses.

**"In this Hotpoint home
and also our projects . . .
we select Janitrol conditioning
as our best investment"**



This Omaha model of the Hotpoint home, built by The Phoenix Development Company, drew over 8,000 visitors. Janitrol Win-Sum Twins provide all-year conditioning as one of the quality features in this model.



Both the air conditioning contractor, Joe Perry (left) and the builder, Don Decker, agree that this Janitrol year 'round conditioning system was an outstanding sales feature of the Hotpoint home, and demand the same Janitrol quality equipment in their lower cost homes.

WRITE TODAY FOR THIS FREE BOOK

It graphically shows why Janitrol has more real, built-in dependability. Explains the differences between Janitrol and ordinary equipment. Ask for No. JS-212, "You Can Measure Heating Quality." Write Dept. HH-59.



The Builder says:

"We use Janitrol in both our low-cost homes as well as our better homes, feeling that the best heating and cooling equipment is the lowest in cost in the long run."

*Don Decker, President
Phoenix Development Co.*

The Installing Contractor says:

"We wish to state that the range of applications of Janitrol equipment is best exemplified by our installation of the Win-Sum Twins combination heating and cooling system in the \$35,000 "Hotpoint House" and the Janitrol horizontal furnace installation in the 275 house project of \$9,000, 3-bedroom homes in the Karen Addition."

"In both instances the highest quality, most efficient equipment that could be obtained at any price, is being used."

*Joseph Perry, General Manager
Perry-Lewis Division
Contractors & Engineers*

Janitrol
HEATING AND AIR-CONDITIONING
DIVISION

Surface Combustion Corporation, Columbus 16, Ohio
In Canada: Alvar Simpson Ltd., Toronto 15

BUILT Like A...

Million Dollar Mansion!



Everything's Good About

Richmond Homes' New

NASSAU!

**A 3 Bedroom Contemporary
Home 40 or 44 feet x 28 feet**

Although the above picture shows the structural strength of The NASSAU, it is really only a small part of the whole story. Carefully designed floor plans and elevations have been refined over a period of four years to assure the best. The many alternate elevations, coverings and added units offer hundreds of distinctive stylings. The NASSAU plan is available in two sizes 40 or 44 feet long by 28 feet wide. A much larger four bedroom is available in contemporary styling.

**The QUALITY Prefabricated for
Particular and Capable Builders**

As A Builder Would Say...

"They just don't build things that strong any more — except at Richmond Homes!" Frankly, it was the reaction of several prospective dealers who saw The NASSAU under construction that gave birth to the heading on this advertisement. The photograph at the left will tell you why.

This should convince you once and for all that ALL prefabricated homes are not skimpily built. Trusses for the New NASSAU have been laboratory tested up to 190 pounds per square foot!

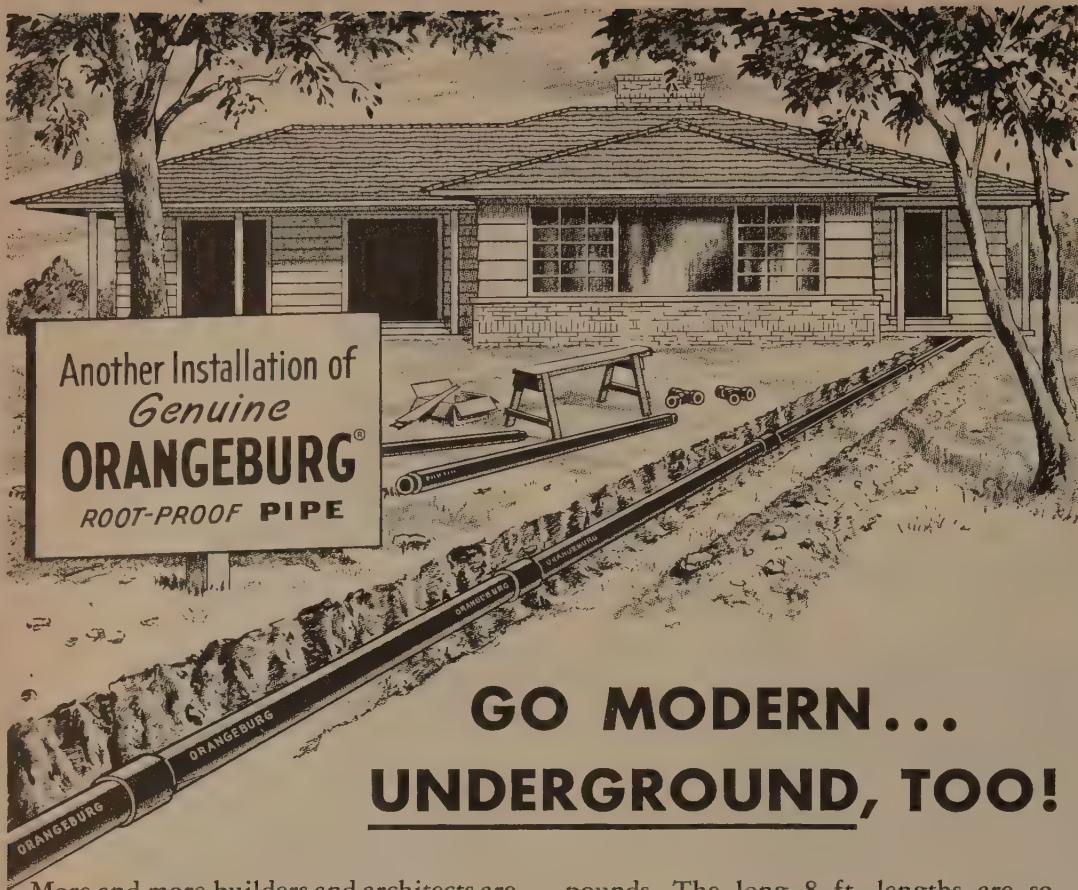
Richmond Homes are precision built by union workmen. The savings that make possible competitive pricing with lower quality homes are achieved through efficient processing. A home of the same quality built at the site would probably cost two to three thousand dollars more. This competitive advantage is worth investigating!



Conventional and Contemporary Homes

For further information write

RICHMOND homes • INC.
Write Box H, Richmond, Indiana



GO MODERN... UNDERGROUND, TOO!

More and more builders and architects are turning to Orangeburg Root-Proof Pipe because it is ideally suited for modern construction methods. Over one million installations are now giving dependable service to homes from coast to coast.

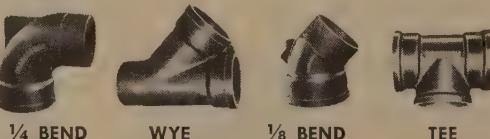
Today's construction demands speed and quality and Orangeburg's speed of installation and proved quality are unsurpassed by any other pipe.

Orangeburg's famous Taperweld joints seal root-proof with a few hammer taps . . . no cement, no caulking, no com-

pounds. The long 8 ft. lengths are so light, one man can easily carry several lengths . . . so rugged and durable that drain lines installed 49 years ago are good as new today.

Where time is money, it pays to use genuine Orangeburg Root-Proof Pipe. Made in 2", 3", 4", 5" and 6" sizes.

Use Orangeburg Root-Proof Pipe for house sewers, storm drains and other non-pressure lines. Use Orangeburg Perforated Pipe for septic tank disposal fields, foundation drains, wet spots everywhere.



ORANGEBURG ROOT-PROOF FITTINGS

Orangeburg Fittings are precision made of famous Orangeburg materials and include a complete line of $\frac{1}{4}$ bends, $\frac{1}{8}$ bends, Wyes and Tees. Each fitting has the exclusive Taperweld Joint for making fast, root-proof joints.

ORANGEBURG® ROOT-PROOF PIPE

ORANGEBURG MANUFACTURING CO., INC. • Orangeburg, N. Y. • West Coast Plant, Newark, Calif.

SEND FOR ALL
THE FACTS

Orangeburg Manufacturing Co., Inc.
Dept. HH-95, Orangeburg, N. Y.

Please send me all the facts on Orangeburg Root-Proof Pipe.

Name _____

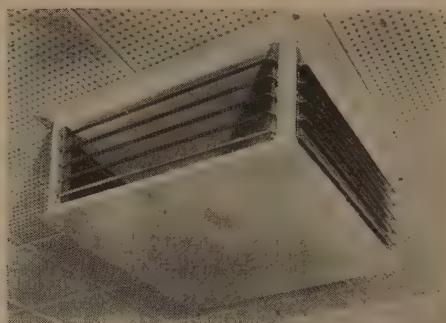
Address _____

City _____

State _____

NEW PRODUCTS *continued from p. 227*

for further details check numbered coupon p. 274



I. DIFFUSER for evaporative coolers fits on ceiling, spreads cooled air

"Bone-dry" regions that can use low-cost evaporative coolers to handle their air-conditioning needs also need diffusers to pattern the incoming cooled air. Ashburn Mfg.'s ceiling-mounted cooler diffusers are now offered in four sizes to fit all makes of coolers up to 12,500 cfm. These sizes accommodate round pipes of 14" to 30" diameters, and 16" to 30" square ducts.

A cone-shaped interior bottom funnels air in all directions through aluminum painted louvers. Finish is of ivory baked enamel, and each diffuser is delivered in an individual carton, ready for installation.

Price: \$12 to \$37.50 (F.O.B.) to trade

Manufacturer: Ashburn Supply Co.
8468 Warner Drive
Culver City, Calif.



m. ATTIC FAN pressure-cools its own motor, uses no belts or pulleys

Exhausting superheated attic air takes a big load off the air conditioner, even makes the nonconditioned house more livable. Newest Ilg propellor fans are directly motor driven, without belts or pulleys, to avoid any misalignment, slippage or friction losses. The motor is completely enclosed to protect it against deposits of grease, dust, dirt, etc., but an intake vent outside the house draws in clean air, and circulates it over the motor for clean, economical operation.

A rigid mounting ring provides permanent alignment, and fits tightly to the wall opening to minimize air leakage. Wiring connections are simplified by the inclusion of an integral terminal box.

Price: 24", \$294.67 (4,700 cfm); 30", \$384.82 (7,800 cfm), F.O.B.

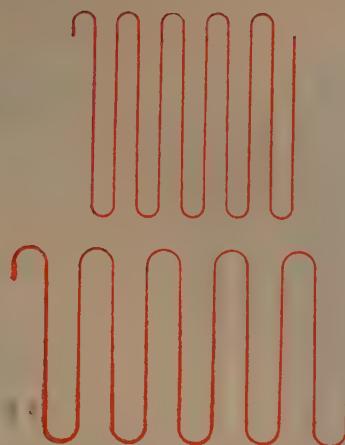
Manufacturer: Ilg Electric Ventilating Co.
2850 N. Pulaski Rd.
Chicago 41, Ill.

continued on p 238

50% faster!"



Mr. Herbert Borkenstein, of W. Borkenstein & Sons, heating contractors, Fort Wayne, Ind., with one of the Anaconda Pre-Formed Panel Grids he used on the Indian Village development.



Anaconda Panel Grids (PG's) contain 50 feet of Type L Copper Tube and are available in two tube sizes— $\frac{3}{8}$ " and $\frac{1}{2}$ ". Center-to-center spacing is adjustable to meet design requirements.

"Using ANACONDA PRE-FORMED PANEL GRIDS* we install the floor systems in 3 houses in the same time formerly required for 2."

"In a big housing development time is important," says Herb Borkenstein, heating contractor, Fort Wayne, Ind. "These pre-formed panel grids have made it possible for a crew of two men to lay out three houses in the same time it used to take for two houses. When you're talking about more than 200 houses, that's a big chunk of time and installation cost saved. The developer likes it too. He can finish and move the houses faster.

"But it's not only the time saving that's important. The grids lie flat and are uniformly spaced. The expanded ends eliminate many fittings. It's easier to make sure

you have a sound job that's going to last. I've always been proud of the work my men do, but with PG's they do an even better job—faster and easier."

PG's FOR FLOOR OR CEILING

See for yourself how ANACONDA Pre-Formed Panel Grids cut installation time, save money, and give you a better job—in two houses or two hundred. Write for Publication C-6 which gives the full story including engineering and layout data. *The American Brass Company, Waterbury 20, Conn. In Canada: Anaconda American Brass Ltd., New Toronto, Ontario.* 6504

*Pat. Applied For



An air view of the Indian Village development, Fort Wayne, Ind., showing some of the more than 200 homes equipped with radiant panel heating by W. Borkenstein & Sons, using Anaconda Pre-Formed Panel Grids.

ANACONDA®

COPPER TUBE PRE-FORMED PANEL GRIDS FOR RADIANT PANEL HEATING

Available through distributors of Anaconda Pipe and Tube

HERE IS THE PRE-FAB BUILDER'S BEST BUY!



International's X-42 Special

- 42' x 24' on foundation!
- 4 bedrooms at small home cost!
- 2-foot overhang all the way round!

3 PACKAGE DEALS FOR YOU

1. Basic shell only
2. Basic shell plus trim package
3. Shell, trim package, plus complete Youngstown Kitchen.

DEPT. H - 3896 MAHONING AVE. • YOUNGSTOWN, OHIO

WRITE TODAY
FOR COMPLETE
INFORMATION!



NEW

PRODUCTS

continued from p. 234

for further details check numbered coupon p. 274



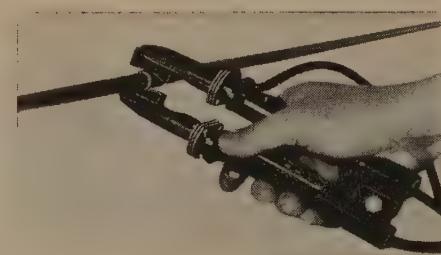
n. FLEXIBLE CHAIN turns rigid to hold awning windows open

Awning-type windows are held firmly open in any position by Getty's angle drive, worm-and-gear operator for wood frame windows. As the operator is turned, it feeds out a flexible chain from the sill housing. This chain becomes rigid when extended and locks into place, eliminating any need for a separate lock on the window.

An accompanying hinge drops the sash top 4½" to 6" so that the outside glass may be washed from inside the house.

Price: \$10.50-\$12.50

Manufacturer: H. S. Getty & Co., Inc.
3348 N. 10th St.
Philadelphia, Pa.



o. ELECTRIC PLIERS solder copper tubing without hazardous flame

Sweated solder joints in copper tubing are "ironed" right in place with Wassco's portable plumber's soldering kit. Electric pliers clamp around the joint, and will solder a ½" o.d. fitting liquid tight in only 20 seconds.

Operated in conjunction with Wassco's 1,000 w. portable power unit, the pliers feature the safety of flameless operation, and require no gas supply. They operate from the nearest 120 v. outlet.

Fittings up to 1¼" in diameter can be handled by the tool, and there is a heat control button in the handle. Electric leads are 10' long.

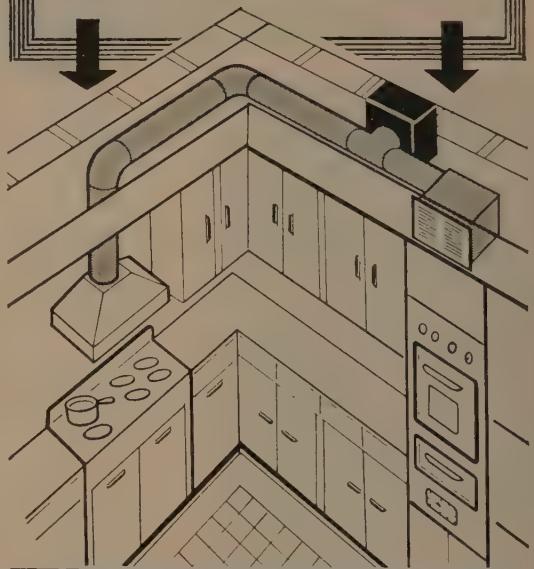
Price: \$68.50 F.O.B.

Manufacturer: Wassco Electric Products Corp.
126 W. Cass St.
Joliet, Ill.

continued on p. 242

1 Broan
Motordor
10" FAN

VENTILATES
BOTH
RANGE and OVEN



No need to install
Two Kitchen
Exhaust Fans

SEPARATE Range and Oven are an important improvement in the modern kitchen that already has received nationwide approval. For the complete ventilation of both cooking units, a satisfactory volume of air movement is assured by the No. 11 BROAN MOTORDOR Kitchen Exhaust Fan with Duct connection to both the BROAN No. 24 Adapter (over the oven) and Hood Exhaust (over the range).

This assurance is made possible by the high efficiency of the BROAN MOTORDOR Fan and the special No. 24 Adapter which can be installed in Soffit or Ceiling.

Installation is simplified, for only 7" round furnace-pipe is required to connect the MOTORDOR Fan, in the outer wall, to both Adapter and Grille in Soffit or Ceiling, over Oven and Range Hood.

The MOTORDOR Fan "pulls" the air through the duct, instead of "blowing" it, and thus eliminates pressures at turns. The insulated, weather-proof, motor-operated outside door of the fan—with sponge-rubber seal—provides perfect protection against weather, condensation, freeze-ups, back-drafts and insects. There is no damper to rattle on windy days, no annoying fan noise in the kitchen.

FREE... complete directions for suggested installations of a single BROAN MOTORDOR Fan to ventilate BOTH RANGE AND OVEN in any kitchen, forwarded promptly. Send today. Address:

BROAN MFG. CO., INC.

1679 N. Water St. • Milwaukee 2, Wisconsin



WOULD YOU BUY?

Such a home, thanks to wise planning, will far outlive its left-hand twin in usefulness, value and marketability. It is a home that's easier to live in, easier to sell!

More than ever before, the buyer of homes looks today for quality in every detail. He knows he is living an electrical life, seeks a home that will fill all his electrical needs both today and tomorrow. You can give him such a home — and add

to your reputation as well — by planning with an accent on sound, adequate wiring!

Free Home Wiring Wall Chart! Send today for Kennecott's handy wall chart showing typical home circuit loads. Use it as a check list when planning home electrical systems. For your copy, write Kennecott Copper Corporation, Department H-95, 161 East 42nd Street, New York 17, New York.



Kennecott Copper Corporation

Fabricating Subsidiaries: CHASE BRASS & COPPER CO. • KENNECOTT WIRE & CABLE CO.

NEW! CEILING "Cherry Red" RADIANT HEETAIRE



MODEL 281
1000 WATTS

MODEL 282
1250 WATTS

**THE FIRST
CEILING
HEATER with
ALL THESE
FEATURES...**

- "Cherry Red" Radiant Heating Element — Completely Sheathed with special Nickel Chromium Alloy for Safety and Long Life.
- "EVEN HEAT" Distribution . . . High temperature UNIFORMLY — Evenly — Throughout the Room—because of the Exclusive "EVEN HEAT" Curved Special Aluminum Finish Reflector.
- "PLUG-IN" Installation . . . pull regular house wiring into pre-wired approved box for simple speedy installation—just plug in HEETAIRE!
- Smaller Size and Greater Wattage . . . only 12 1/4" from edge to edge—fits the smallest bathroom, heats the largest!

Write, wire or phone Dept. HH for details and prices!

NEW! Popular Priced HEAVY DUTY Automatic Fan-Forced HEETAIRES

Built-In and Portable Models (270 Series)
3000 to 5000 Watts, 240 V., AC

MARKEL ELECTRIC
PRODUCTS, Inc.
Founded 1920 • BUFFALO 3, N. Y.
LA SALLE PRODUCTS,
INC.
EXPORT DEPT. 15 MOORE ST., N. Y. 4, N. Y.

242

NEW PRODUCTS

continued from p. 238



p. BELT CONVEYOR mechanizes the lifting of materials on off-ground jobs

Brick, block, shingles, mortar, etc., can be moved effortlessly and rapidly on the New London conveyor. Powered by an electric motor and/or a gasoline engine, the unit has a 12" rough-top rubber belt which grips materials securely up to the top operating angle of 44°.

Belt speed is 60' per min. (adjustable) and standard lengths are 10' and 20', though other lengths can be made to order.

Price: 10', \$312; 20', \$432

Manufacturer: New London Engineering Co.
New London, Wis.



q. POWERED WHEELBARROW lifts up to 1,500 lbs. in interchangeable bucket or flat bed

Materials handling, either liquid or solid, is turned over to mechanical muscles by a power-driven wheelbarrow, the *Prime-Mover*. Equipped with a dump bucket, the barrow can carry 10 cu. ft. of concrete, and up to 16 cu. ft. of heaped dry materials. To convert to solid materials, the bucket is replaced by a flat bed, which will hold 300 bricks, or up to 1,500 lbs., and carry the load up grades as steep as 20%.

The *Prime-Mover* is engineered to be used wherever a hand cart can go, i.e., its 31 1/2" width slides through normal doorways or aisles, and its 64" length permits use on

continued on p. 246

FOR NEW HOMES!

FOR REMODELING!

include
cedar
closets

USING ECONOMICAL

**BROWN'S
Super Cedar
CEDAR CLOSET LINING**

... because SUPERCEDAR costs little or NO MORE than ordinary plaster-paint closets . . . and it gives you the saleable features of beauty and protection found only in genuine aromatic red cedar!

SUPERCEDAR nails directly to open studding, or over old wood and plaster. Never needs painting. It is 90% Red Heart wood with 100% cedar oil content—it smells, but good! Available in various face widths in 4 and 8 foot factory-sealed bundles, and in prebuilt 10" to 18" panels, 8 feet long. Sold by building supply dealers everywhere!

FREE

Closet Planning Booklet. Write today for your copy!

GEO. C. BROWN & COMPANY, INC.

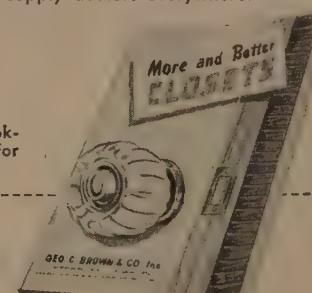
Largest Mfgs. of

Aromatic Red Cedar

in the World

GREENSBORO,

NORTH CAROLINA



Please send me latest literature on SUPERCEDAR.

NAME _____

ADDRESS _____

CITY _____

STATE _____



for gas built-ins, dryers, disposers,

Caloric

is the brand

that customers know, envy, and buy!

Caloric Built-Ins—All over the country Caloric built-ins are selling like popcorn at a county fair. Housewives (menfolk, too) love the modern Caloric styling, the choice of colors and finishes, the famous easy-to-clean features, the Observador oven windows, removable handles, fully automatic clock control.

Folks who know cooking go for the eye-level controls that eliminate stooping and bending, the closed-door broiling that means no smudge or dirt, the extra speed and extra convenience that only gas can give.

Dollar for dollar, here's the greatest buy in built-ins . . . the styling that catches customers . . . plus the quality and basic value that are built into all Caloric appliances.

Display Caloric built-ins, advertise them, sell them. They move fast. They bring you easier sales, greater dollar volume, bigger profits. East, West, North and South, wherever better kitchens are planned, the call's for Caloric.

Caloric Ranges—Brilliantly styled by Peter Müller-Munk Associates, they boast angled control panels, recessed control knobs and choice of backguard colors. Available with In-a-line timer with bell together with automatic oven timer, oven indicator light, easy-reading large-face clock.

Caloric Dryers—The original LO-HEET . . . HI-BREEZE automatic gas dryer. Provides safer, faster and far more economical drying. Waist-high lint trap with exclusive Sifto-Bag®. One-knob control, sturdy life-long construction. Porcelain enamel work surface.

Caloric Disposers—Fully automatic gas disposer that ends the need of garbage cans and outdoor trash units. It gets rid of garbage, trash, everything except metal or glass. With Calor-A-Tred foot pedal it's easy to load, even with both hands full. Calor-A-Set dehydration control with three settings for normal, wet, or dry refuse.

ADVERTISED IN

GOOD HOUSEKEEPING
BETTER HOMES & GARDENS

HOME

Install them, advertise them, sell them.

SMALL HOMES GUIDE
HOME MODERNIZING



Caloric Appliance Corporation
Dept. HH
Topton, Pennsylvania

Please send me more information on Caloric built-ins, dryers, and disposers.

NAME _____

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NEW PRODUCTS

continued from p. 242

for further details check numbered coupon p. 274



elevators and hoists or other close quarters. A 6 h.p., one-cylinder engine powers the unit, and the enclosed transmission is an all gear, forward and reverse, oil bathed mechanism. Total weight is just 500 lbs.

In field tests, the *Prime-Mover* placed 12 to 17 cu. yds. of concrete per hour, equivalent to the output of three to four men with handcarts. Conversion from one body type to another requires only releasing a simple latch and making the substitution.

Price: \$690, including bucket

Manufacturer: The *Prime-Mover* Co.
Muscatine, Iowa



r. ALUMINUM SHINGLES offer a "lifetime" surface weighing only 50 lbs. per square

Baked enamel gives a colorful surface to *Loomroof* aluminum shingles, which are light in weight (50 lbs. per square), and have a four-way edge lock to give a water-tight seal and to protect the shingles against being uprooted by high winds.

The insulating properties of the aluminum will increase comfort by reflecting sun heat in summer and reradiating inside heat in winter. Shingles carry a 25-year guarantee on workmanship, and a 100-year guarantee against deterioration by the elements. (Try and outlive *that*!)

The aluminum itself is striated to give a strong shadowline, and all accessories and flashings must be aluminum to avoid corrosion from dissimilar metals.

Price: (dealer) shingles, \$36 per sq.; accessories, \$6; labor, \$15. Retail, installed, \$80-\$100 per sq.

Manufacturer: Loomroof Corporation of America
P.O. Box 9536
Pittsburgh 23, Pa.

Technical Publications on p. 250

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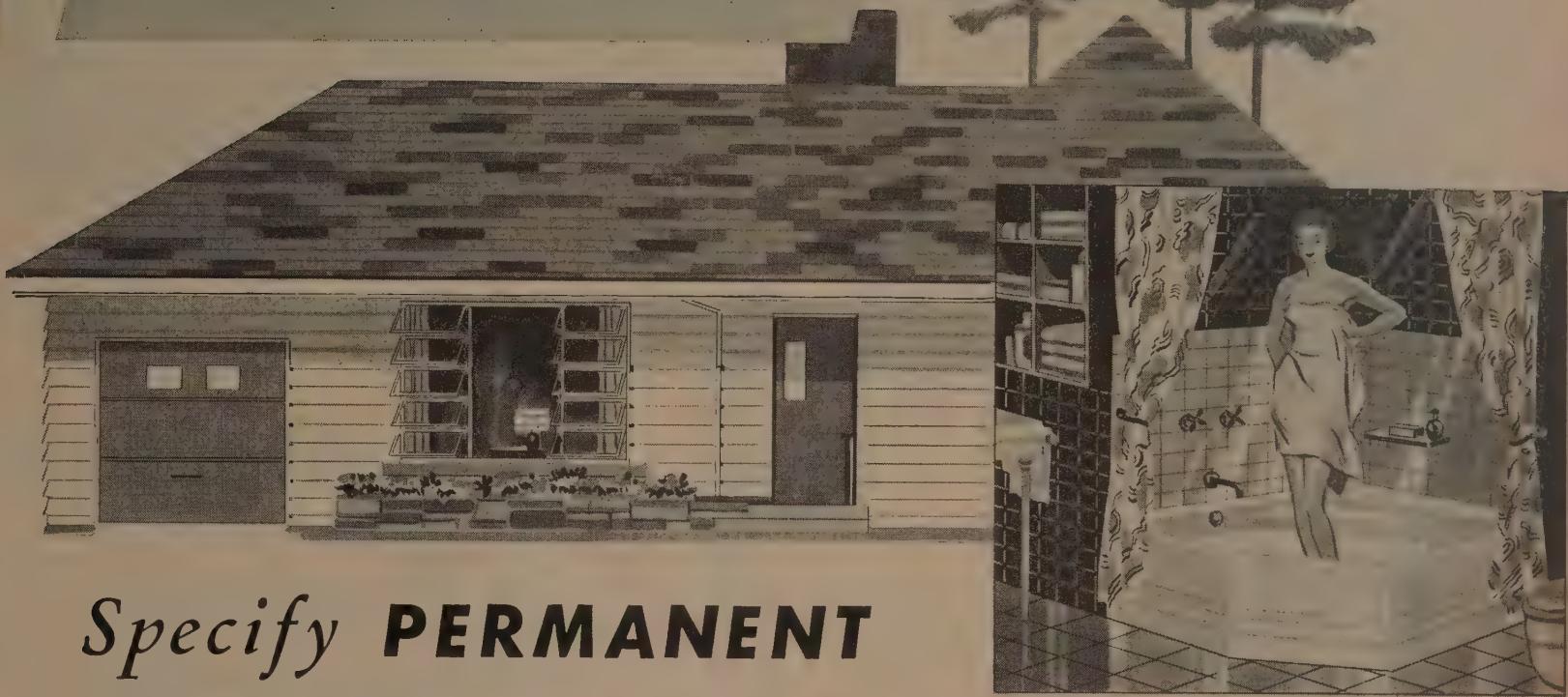
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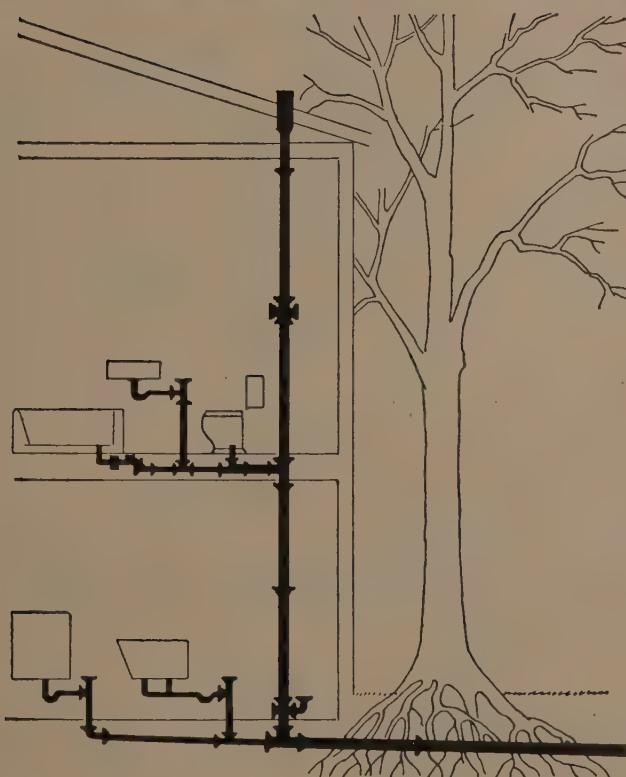
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For these sound reasons, cast iron is first choice today of the nation's leading architects and builders.



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2 Gateway Center, Pittsburgh, Pa.

TECHNICAL PUBLICATIONS

272. INSULATION. How To Install Insulation and Ceiling Tile. Bostich, Dept. HH, 1024 Mechanic St., Westerly, R. I. 8 pp. 3" x 6"

Step-by-step instructions for stapling hammer and tacker use, based on the recommendations of insulation and ceiling tile manufacturers. Illustrated.

273. INSULATION. Kimsul "48" Sheathing Blanket. Kimberly-Clark Corp., Dept. HH, Neenah, Wis. 24" x 36" foldout

Fine photographs and clear instructions on the use of this new out-size blanket insulation (Mar. issue). The clear explanations are handicapped by the billboard-size sheet they are printed on, as difficult to manage as a newspaper on a crowded subway.



274. FLOORING. Flooring Materials. Small Homes Council, Dept. HH, University of Illinois, Urbana, Ill. 8 pp. 8 1/2" x 11"

An invaluable reference work, based on data compiled by Ben John Small, AIA. Criteria for selecting the proper flooring are discussed, with cost and performance tables. Types and characteristics of all commonly used floorings are included, as well as two pages on installation methods and recommendations. Final "plum" is a reference table for underlayments for various materials.

275. MILLWORK. Curtis Woodwork. Curtis Companies, Inc., Dept. HH, 114 S. 12th Ave., Clinton, Iowa. 9 sections, 116 pp. 8 1/2" x 11"

Photos and details of the complete Curtis line, ranging from simple louvers and shutters to full kitchen cabinets. Ringbound for permanency.

276. APPLIANCES. General Chef Twin. General Air Conditioning Corp., Dept. HH, 4542 E. Dunham St., Los Angeles 23, Calif. 4 pp. 8 1/2" x 11"

For rental units, auxiliary kitchens, summer homes, etc., General produces complete kitchens, engineered into a single unit. Sink, range, refrigerator and oven are combined in one cabinet.

277. LIGHTING. Pictorial Portfolio of Lighting Equipment. Art Metal Co., Dept. HH, 1814 E. 40th St., Cleveland 3, Ohio. 20 pp. 5 1/2" x 8 1/2"

Incandescent lighting fixtures for home and commercial use. Photos and dimensions.

continued on p. 254

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TECHNICAL PUBLICATIONS

continued from p. 250

278. HEATING. Propeller Fan Unit Heaters. Warren Webster & Co., Dept. HH, 17th & Federal St., Camden 5, N.J. 24 pp. 8 1/2" x 11"

Selection and application data, unit location criteria, piping and wiring diagrams.

279. LIGHTING. Top Lights. American 3-Way Luxfer Prism Co., Dept. HH, 431 S. Dearborn St., Chicago 5, Ill. 8 pp. 8 1/2" x 11"

Glass blocks made up into panels for bringing daylight into interiors. Sizes and specifications.

280. HEATING. Hydraline Air Conditioning. Hydraline Products Div., Dept. HH, Borg-Warner Corp., 18538 Mack Ave., Detroit 36, Mich. 4 pp. 8 1/2" x 11"

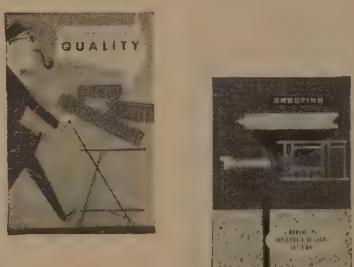
Heating and cooling with liquids, using the recessed room units recently perfected (H&H, April). How to size and locate the units, capacities and accessories.

281. APPLIANCES. Transite Gas Vent Pipe. Johns-Manville, Dept. HH, 22 E. 40th St., New York 16, N.Y. 28 pp. 8 1/2" x 11"

A service manual on venting all domestic gas appliances. Essential data on diameters, lengths, and weights, in tabular form. Installation recommendations and drawings and photographs of auxiliary fittings.

282. STORAGE. Mengel Wall Closets. The Mengel Co., Cabinet Div., Dept. HH, 2300 S. Fourth St., Louisville 1, Ky. Two booklets, 12 pp. and 30 pp. 8 1/2" x 11"

Prefabricated storage walls for "one-room" construction. Plans, dimensions, details and specifications. The second booklet is a step-by-step photographic presentation of a typical wall-closet installation from packaged parts to a finished closet wall. Excellent for instruction of workmen.



283. ROOF DECKING. Erecting Tectum Roof Decks. Tectum Div., The Alliance Mfg. Co., Dept. HH, 105 S. Sixth St., Newark, Ohio. 20 pp. 5" x 7"

A contractor's guide to installation of this cement-impregnated wood-fiber decking. Arrangement of framing, anchorage methods, finishing and storage are all explained and illustrated. A second booklet explains the properties and characteristics of the material.

continued on p. 260

Binks Residence

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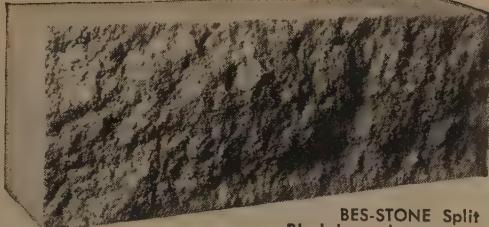
More and more communities are restricting or prohibiting the use of water for cooling the condensing units in air conditioning systems. Elsewhere, high water rates make it costly. A Binks cooling tower cools and recirculates the condensing water...at savings up to 95% of cooling water bills. Here are 5 other advantages you'll find in Binks Towers:

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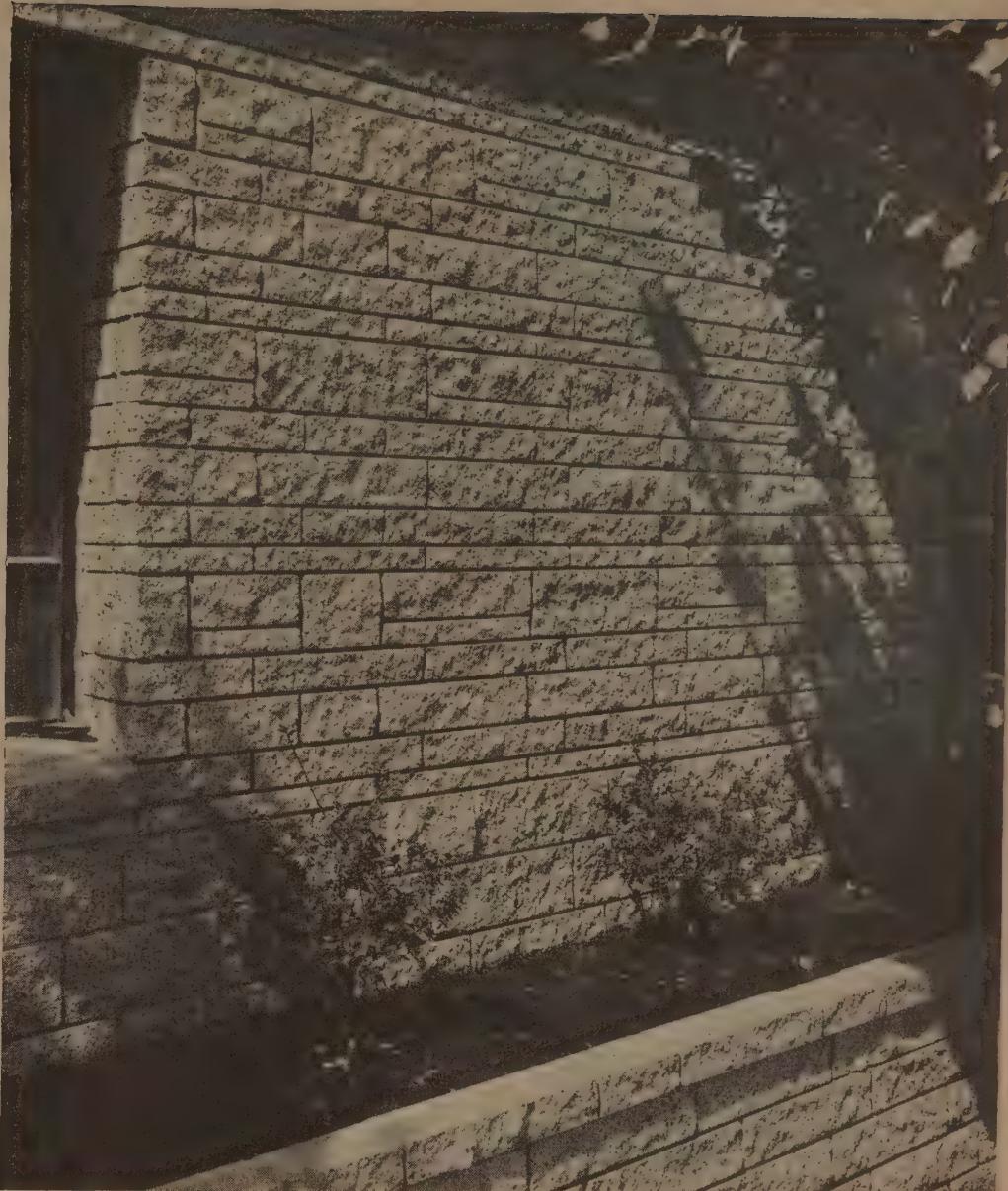
The use of split block is increasing rapidly. And with good reason. This beautiful and rugged building material offers innumerable opportunities to builders in all classifications. Not only has split block the appeal and durability of fine quarried stone, but it goes far beyond stone in its adaptability to various types of construction.



Split block gives both small and large homes that distinctive stone masonry appearance.



Ranch type home built with split block. Just as attractive as quarried stone, but costs less.

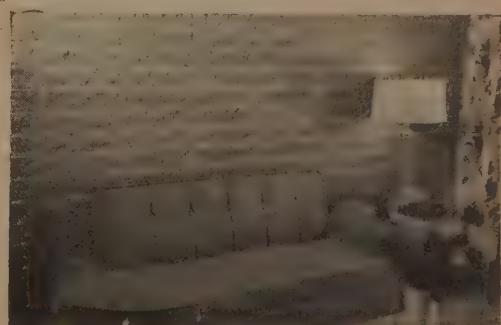


Coursed random pattern split block — a favorite of many builders and home owners.

With split block, the designer has a wider range of color, texture, and proportion with which to meet new ideas or cost problems. Split block can be used as solid masonry, veneers, cavity and solid walls, fireplaces, planters—for interiors as well as exteriors, for commercial structures as well as homes. In fact, there is perhaps no other building material used today which is so ideally suitable to the demands of this new era in modern building.

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TECHNICAL PUBLICATIONS

continued from p. 254

- 284. HEATING.** Low Cost Modern Heat. Firewel Co., Inc., Dept. HH, Buffalo 25, N. Y. 8 pp. 8½" x 11"

Automatic furnaces in both high and low models. Sizes and specifications.

- 285. KITCHENS.** American Kitchens Specifications. American Kitchens Div., Avco Mfg. Corp., Dept. HH, Connersville, Ind. 16 pp. 8½" x 11"

The complete American line in wood, copper and steel. Cabinets, appliances and sinks, with details and specifications, sizes and shipping weights. Included is a useful summation of FHA requirements.

- 286. ROAD BUILDING.** Calcium Chloride. Calcium Chloride Institute, Dept. HH, 909 Ring Bldg., Washington 6, D. C. 34 pp. 6" x 9"

Builders who must improve their own roads will be interested in the stabilizing properties of this chemical. Properties and design, construction methods, and specifications. Illustrated.



- 287. WIRING.** Home Wiring Handbook. Westinghouse Electric Corp., Electric Appliance Div., Dept. HH, Mansfield, Ohio. 142 pp. 5" x 8", wire bound. \$1

A revised edition of the handbook, which proposes the establishment of three degrees of electrical living: 25 kw., 35 kw., and 40 kw., and a quick reference table for determining net load. Number and size of circuits needed can be easily estimated, even if location of equipment is still unknown.

- 288. ROOFING.** Roof and Wall Shingling Made Easy. Red Cedar Shingle Bureau, Dept. HH, 5510 White Bldg., Seattle 1, Wash. 16 pp. 3½" x 8"

Shingling methods summarized and illustrated. Easily understood "how-to."

- 289. PANELING.** Open The Door To Beauty. E. J. Stanton & Son, Inc., Dept. HH, Los Angeles 54, Calif. 8 pp. 4" x 9"

Hardwood paneling, with color photographs and instructions for installation.

- 290. SIDING.** Western Red Cedar Siding. Western Red Cedar Association, Dept. HH, 4403 White-Henry-Stuart Bldg., Seattle 1, Wash. 4 pp. 8½" x 11"

In-use photos of this versatile siding, plus a page of details and application suggestions.

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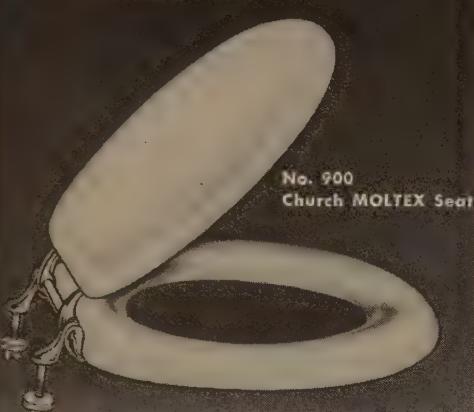
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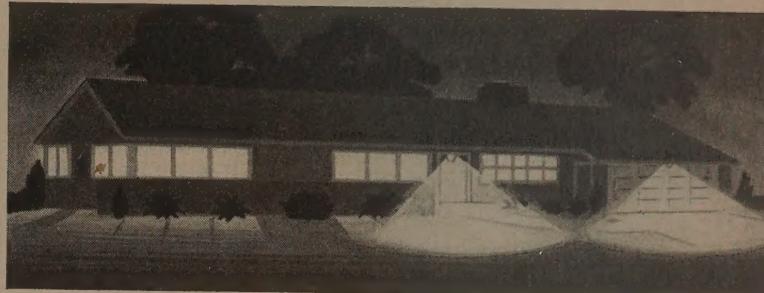
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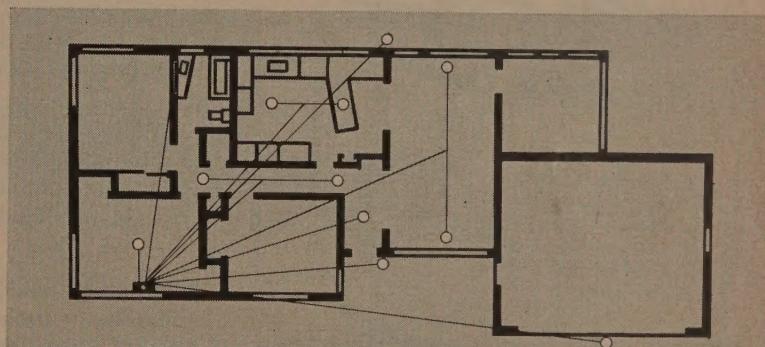
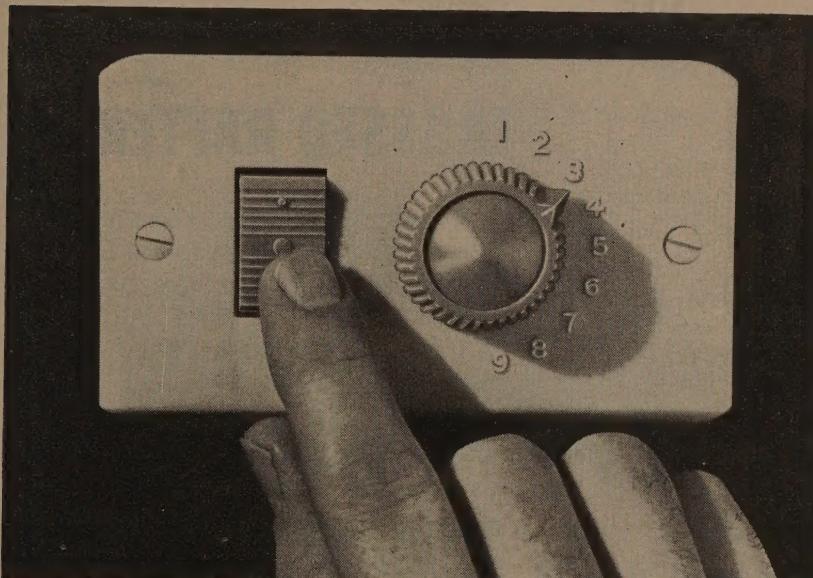
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As determined from interviews with 555 owners
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Luxury — at Low Cost

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G-E Remote Control Wiring is economically practical for homes of

any size — or price. You can add this dramatic sales feature to your homes at a cost only slightly more than regular wiring.

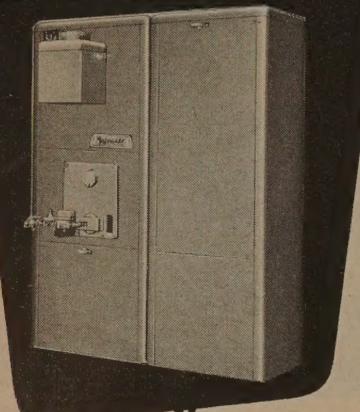
A Real Selling Feature

So install G-E Remote Control of lights in the homes you build. Let this convenient system of wiring prove to you that it speeds home sales. The "G-E Remote Control Wiring Manual" shows how to layout, estimate, and install this modern wiring system, with easy-to-follow, step-by-step instructions. Write Wiring Device Department, General Electric Company, Providence 7, R. I.

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TECHNICAL PUBLICATIONS

continued from p. 260

291. PLUMBING. Perma-Line. Line Material Co., Dept. HH, 700 W. Michigan, Milwaukee, Wis. 24 pp. 8½" x 11"

Bituminous fiber pipe for drainage, sewer and septic systems, with characteristics, typical installations, and tables for estimating septic requirements.



292. KITCHENS. Styling Your Kitchens. Mullins Mfg. Corp., Dept. HH, Warren, Ohio. 12 pp. 8½" x 11"

The new Youngstown colored cabinets in a series of demonstrations in full color of what can be done in the kitchen. Plans.

293. HARDWARE. Five New Designs. Schlage Lock Co., Dept. HH, 2201 Bayshore Blvd., San Francisco, Calif. 4 pp. 8½" x 11"

Decorative ideas for lock and escutcheon placement on residential doors. A second 6 pp. booklet illustrates lock installation tools and methods for both standard and long backset placements.

294. GARAGES. How To Build Garage Door Openings. Detroit Steel Products Co., Strand Garage Door Div., Dept. HH, 3111 Griffin St., Detroit 11, Mich. 12" x 12" foldout

Details and instructions for preparation of door openings to facilitate hanging and operation of overhead doors.

295. HEATING. Ceramiduct. Straitsville Brick Co., Dept. HH, New Straitsville, Ohio. 4 pp. 8½" x 11"

Installation specifications for this vitrified fire-clay heat duct (March issue) as used in perimeter or radial heating systems for slab foundations.

296. VENTILATION. NuTone Ventilators. NuTone Inc., Dept. HH, Madison & Red Bank Rds., Cincinnati 27, Ohio. 8 pp. 8½" x 11"

Range hoods, wall and ceiling ventilators illustrated and described. Specifications and installation data.

297. HARDWARE. LaBelle Cut Nails. Wheeling Corrugating Co., Dept. HH, Wheeling, W. Va. 12 pp. 8½" x 11"

Various cut nails, their uses and properties, sizes and prices.



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continued on p. 274

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3. Seven well-engineered models—for every need.
4. Safety-designed in every detail for your protection.
5. Suitable for the finest homes—old and new.
6. Operates from above and below.
7. Full width treads—SAFE for everyone.
8. ALL steps are of equal height.
9. Treads and stringers are made of Sitka Spruce.
10. Full door width provides ample access for large objects.
11. Full length SAFE hand rail.
12. Accurate architectural design assures easy and SAFE ascending and descending.
13. All metal parts are made of strong, SAFE pressed steel.
14. Repairs always available on quick notice for all models—no "orphans."
15. Doors made of White Pine and Fir in two-panel and flush types; hardwood doors in flush type only.
16. Tailor-made for all heights—no short or long steps.
17. Hundreds of thousands in constant daily use.
18. IMMEDIATE DELIVERY!
19. Meets all building codes.

BESSLER—best for over 40 years!

FREE!
New Catalog and
Wall Chart!

Illustrates and describes complete line of seven Bessler Disappearing Stairway Models to meet all your needs. This new catalog and wall chart should be in your files for ready reference—write now!

The Bessler Disappearing Stairway Co., 1900-E East Market St., Akron 5, Ohio

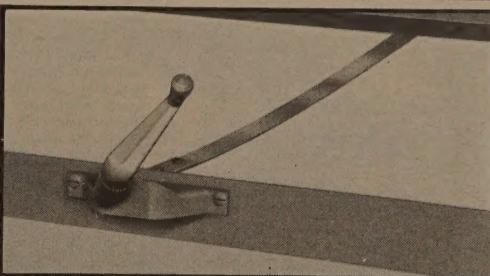
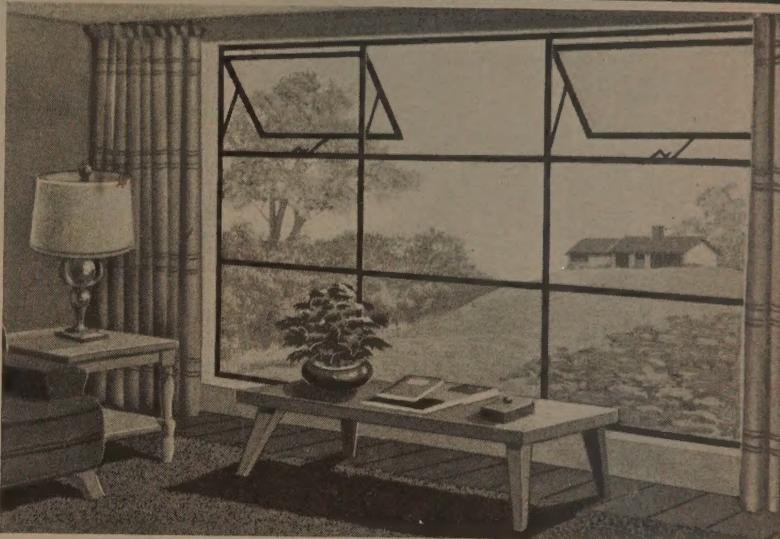
No wonder builders say
their top magazine is
Better Homes & Gardens!

TELEGRAM FROM: Ken Stowell,
Wichita, Kansas

"BETTER HOMES AND GARDENS,
MEREDITH PUBLISHING COMPANY
PARTICIPATION IN BETTER HOMES
AND GARDENS PROMOTIONS HAS
EACH YEAR RESULTED IN PRESTIGE
AND SALES THAT WOULD HAVE
TAKEN YEARS TO ACQUIRE THROUGH
ANY OTHER MEDIUM. I LOOK
FORWARD WITH ENTHUSIASM TO
CONTACTS TO BE MADE IN THE
1955 IDEA HOME PROGRAM."

Be sure to see BH&G spread on Page 76

Since **HOPE'S** 1818
ROTO TYPE RANCH WINDOWS
STEEL WINDOWS HAVE THE STRENGTH AND RIGIDITY
THAT NO OTHER WINDOW CAN MATCH



NEW!

**COMFORT,
CONVENIENCE,
ECONOMY**

Die-cast roto operator has an extension arm of stainless steel and bronze sliding shoe.

HOPE'S ROTO RANCH WINDOWS are available in a full range of sizes for every room in the house...bedroom, kitchen and view windows for living areas.

New wide (1-3/4") muntins in proper proportions to the panes provide great rigidity and harmonize with residential construction.

CHECK THESE DESIRABLE NEW FEATURES:

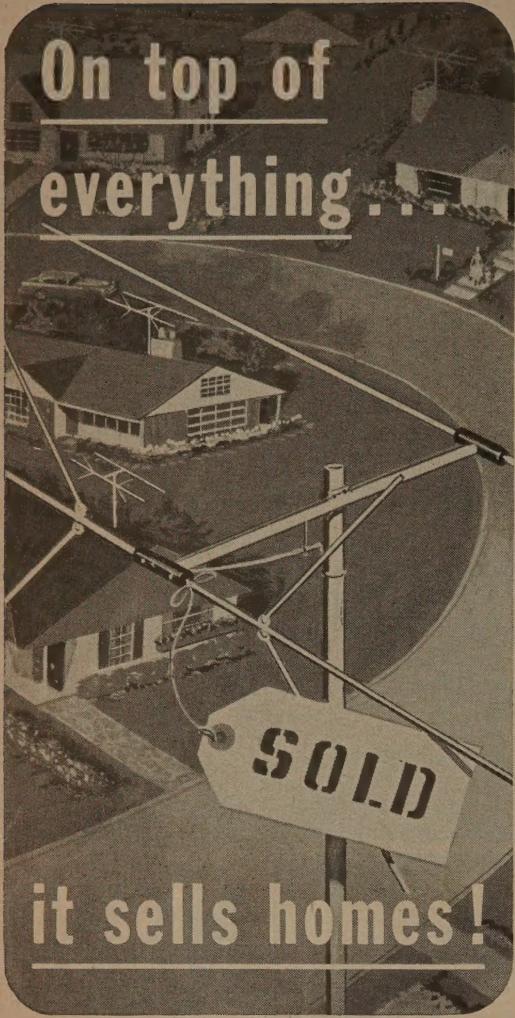
- ✓ Underscreen roto operators open and close ventilators easily, quickly.
- ✓ Flat type, fixed screens with bronze mesh need never be touched.
- ✓ May be glazed with standard units of "Thermopane" or "Twindow", eliminating storm sash, or with single panes of sheet or plate glass.
- ✓ Ventilators project outward at bottom; awning effect permits ventilation even in rainy weather.

No other Ranch Window in the same price range possesses all the features of Hope's New Roto Type—and Hope's prices are low. The window illustrated is priced at less than \$50 with worthwhile quantity discounts.

For Further Information, Write for Bulletin 145-HH

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Are Fitted with Hope's Windows*



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With a view to increased, faster, new-home sales, make television viewing easy for home buyers. Have RCA Service Company custom install a reliable, powerful antenna... roof- or attic-mounted... with concealed interior wiring and baseboard plug-in outlets.

An RCA Custom antenna installation costs you little, yet works so hard at selling homes because it saves home buyers really considerable money. And depend on RCA Service Company technicians for exactly the right installation for local conditions. Their work fits smoothly into your construction schedule.

Coupon brings RCA Service Company help in planning your developments with RCA Custom TV Antennas—an "extra" that really does sell your homes.



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COMPANY _____
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CITY _____ ZONE _____ STATE _____

TECHNICAL PUBLICATIONS *continued from p. 266*

- 298. POWER TOOLS.** Common Rafter Meter. De-Walt Inc., Dept. HH, Lancaster, Pa. 4" x 8" card. 25¢ each

A handy, dial-type meter for making the radial saw adjustments required for cuts in roof rafters. To operate, the user simply dials the circular wheel to any one of the 19 common roof pitches.

- 299. WIRING.** Fusible Service Entrance Equipment. General Electric Corp., Dept. HH, Trumbull Components Dept., Plainville, Conn. 16 pp. 8½" x 11"

Seven basic types of fusible service entrance devices, with ratings, wiring diagrams, dimensions and complete ordering information.

PRODUCTS AND PUBLICATIONS COUPON

For more information on new products and publications in this September issue
check key numbers below and mail to:

house & home

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NEW PRODUCTS

- a. Johns-Manville cement asbestos board.....
- b. National Gypsum cement asbestos board.....
- c. Malarkey redwood paneling.....
- d. Nylon reinforced plastic.....
- e. Malta wood windows.....
- f. Chambers range
- g. Moen faucet
- h. Marco recessed light.....
- i. Litecraft recessed light.....
- j. Electric service bracket.....
- k. General Electric load center.....
- l. Ashburn ceiling diffuser.....
- m. Ilg attic fan.....
- n. Getty window operator.....
- o. Wassco electric pliers.....
- p. London belt conveyor.....
- q. Powered wheelbarrow
- r. Aluminum shingles

- 272. Bostich Tile fastening.....
- 273. Kimsu "48" insulation.....
- 274. Small Homes Council bulletin.....
- 275. Curtis millwork
- 276. General kitchens
- 277. Art Metal lighting.....
- 278. Webster heaters
- 279. American top lights.....
- 280. Hydraline air conditioning.....
- 281. Transite gas vents.....
- 282. Mengel storage walls.....
- 283. Tectum roof decking.....
- 284. Firewel furnaces
- 285. American Kitchens specifications.....
- 286. Calcium Chloride
- 287. Home wiring handbook.....
- 288. Red cedar shingles.....
- 289. Stanton hardwood paneling.....
- 290. Red cedar siding.....
- 291. Perma-Line fiber pipe.....
- 292. Youngstown kitchen styling.....
- 293. Schlage locks
- 294. Garage door openings.....
- 295. Ceramiduct heating ducts.....
- 296. NuTone ventilators
- 297. LaBelle cut nails.....
- 298. DeWalt rafter meter.....
- 299. General Electric service entrance.....

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